PRICE FIXING IN THE UNITED STATES DURING THE WAR

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I

IN discussing price fixing it is necessary to define the subject, since there are various methods of controlling prices, some of them far removed from the popular notion of what is involved in the operation. As used in this and a subsequent article, the term "price fixing" includes any regulation of price effected directly or indirectly by government agency. More specifically, the discussion will be confined to the control of prices in which some agency of the government having power to enforce its decision, determines, or sanctions the determination of, a price by some process other than that of free bargain between buyer and seller. This definition is intended to cover both price agreements made between buyer and seller with the sanction of a government agency and prices established by some branch of government for its own requirements. In the latter case the arrangement would commonly be in the nature of an ordinary contract between buyer and seller; but when the purchase is made with a threat to commandeer, and the price is named by the branch of government directly or indirectly concerned, that price may be said to be fixed.

Such a definition gives a broad scope to the field of the inquiry. It will be admitted by all who are conversant with the facts that the whole history of price fixing in the United States during the period of the war will never be known. The price-fixing agencies were in fact so numerous, and the arrangements made were so often informal, that an exhaustive treatment of the subject would be well-nigh impossible. Moreover, many prices were controlled indirectly, and when this control was to any degree intentional, the result may be properly termed a fixed price. Nevertheless, material is available for a study of a great part of the price-fixing activities of the government, and even where such is not the case, the writer's first-hand knowledge enables him to speak with some authority concerning methods and results.

In this article price fixing in the United States during the war will be discussed under three general heads: (1) scope and period; (2) agencies and their powers; (3) methods. The subject will be continued in a subsequent paper which will consider the purposes and results of the policy and undertake a critical appraisal of it.

1. *Scope and Period*

In what follows, attention will be confined chiefly to the formal price fixing which was carried on by such agencies of the government as the War Industries Board and the Food and Fuel Administrations. Prices were more or less formally fixed by various departments or branches of the United States Government for at least 110 important products, each of which required a separate price-fixing operation.[1] This was exclusive of

[1] The following is a partial list of products for which prices were fixed by some government agency or sanction. They are arranged with some idea of the order in which the prices were fixed, although no pretense to accuracy in this regard is claimed.

Coal, bituminous.
Coal, semi-bituminous.
Coal, anthracite.
Coke.
Copper, ingot, electrolytic.
Copper wire.
Iron ore.
Pig iron.
Steel plates.
Steel structural.
Wheat.
Ship timbers.
Pine, yellow.
Steel billets.
Sugar.
Sardines.
Bar iron.
Pipe, cast iron.
Steel rails.
Nickel.
Tin plate.
Wire, barbed, galvanized.
Wire, plain, annealed.
Ammonia.
Douglas fir.
Ammonium sulphate.
Alcohol, wood.
Acetic acid.
Nitrate of soda.
Zinc, grade "A."
Zinc, sheets and plates.
Binder twine.
Castor beans.
Castor oil.
Aluminum.
Molasses (imported.)
Manila fibre.
Retail lumber (eastern cities.)
Platinum.
Hemlock.
Pine, white.
Spruce, eastern.
Paper, newsprint.
Manganese ore.
Sashes and doors.
Linters (munition.)
Quebracho extract.
Cement, Portland.
Sulphur.
Hides.

repetitions or renewals at later periods which often involved as much work and study as the original decisions. More than 30 of the products, however, were duplications in the sense that they represented merely different grades of some of the other eighty or more commodities, *e. g.*, the different grades of wheat and iron.

Metals and metal products furnished the widest field for price fixing. The Price Section of the War Industries Board reports nineteen metals and metal products under the head of "controlled commodities." Several cases of price fixing in the metals group were not covered by this report, but, on the other hand, the figures of the War Industries Board include separate enumeration of the various grades of pig iron and steel products, and the additions and subtractions to be made seem to balance one another, leaving the number of metal price fixings approximately as reported. The other groups of commodities which appeared most frequently in price fixing were cloths and clothing, building materials, including lumber, foods, farm products, drugs and chemicals and fuels. Prices were fixed for all the chief basic materials of industry, except petroleum and raw

Note—Continued:

Rubber.
Wool.
Acetate of lime.
Quicksilver.
Iridium.
Hogs.
Leather, harness.
Prunes, California.
Raisins, California.
Sulphuric acid.
Nitric acid.
Cotton linters.
Cotton goods.
Cotton yarns.
Denims, Mass.
Drillings, Mass.
Ginghams, Amoskeag.
Print cloths.
Sheetings, bleached.
Sheetings, brown.
Hemp.
Tickings, Amoskeag.
Flour, wheat.
Rice.
Building tile.
Crushed stone.
Sand and gravel
Lead.
Charcoal.
Leather, sole.
Glycerine, (dynamite.)
Cottonseed meal.
Cottonseed oil.
Wool grease.
Burlap.
Tin, pig.
Tree nails.
Locust.
Cotton compress rates.
Birch logs.
Brick, common.
Wallboard.
Food products (canned vegetables *etc.*)

cotton, and also for a group of the more important manufactured products.

In general, it may be said that prices were fixed for three chief classes of commodities: (1) basic raw materials and fuels, such as iron ore, copper, lumber, sulphuric acid and coal; (2) munitions of war, such as sulphuric acid, grade "A" zinc, platinum and cotton linters; (3) general consumption necessaries, such as coal, sugar, flour and raisins. The basic raw materials and fuel affect all classes of commodities, including munitions and direct consumption goods; and the consumption necessaries are also essential to the maintenance of an army. Nevertheless, each of the three classes has its separate significance, and the classification throws light on the purposes of price fixing. The prices that were first formally fixed by the government fall chiefly in the basic raw materials group. A more shortsighted policy might have begun by regulating prices of articles required by the army and the navy and those which figure most conspicuously in public consumption.

While in most cases it was the price of a unit of commodity that was fixed, in others it was the rate to be charged for a service. For example, in the latter part of 1918, at the request of the Railroad Administration, the War Industries Board fixed the rate for cotton compressing. This rate has been virtually part of the railway rate, cotton often being compressed in transit. In such cases, the price is like a "rate," in that it is not based on specific cost, and is a charge made for a service rendered in necessary connection with the plant. Similarly the margins of cotton ginners and retail lumber yards were regulated, and in the latter case charges for milling and delivery were segregated. As is well known, the charges of various middlemen and dealers in food and coal were fixed.

An examination of the list of commodities whose prices were fixed shows that articles which may be classed as exclusively luxuries, are not included. Some of those listed, as, for example, platinum, raisins, leather and alcohol, may be subject to luxurious consumption; but in price fixing they were not regarded as falling within the category of luxuries.

It is of some interest, moreover, to note that in several in-

stances the commodity listed was either localized in production or centralized in control, notably in the cases of aluminum, nickel, anthracite coal and copper. In others, however, neither condition existed, as in the case of lumber, wheat, hollow building tile and canned foods.

The fraction of the total market for a given commodity affected by a price-fixing order varied widely, ranging from a relatively small part represented by purchases by a single department of the government to practically the entire world market. In some cases, prices were fixed for the United States Government alone, *e. g.*, nickel, quicksilver, sulphuric acid, cement, New England spruce and other lumber. In others the prices were fixed for the government and made available to the public in a contingent way, as, for example, in the case of hemlock lumber, where it was provided that any quantity of the commodity which, in the judgment of the lumber director of the War Industries Board, could be released for the commercial market, might be sold to the public, subject to the maximum price fixed for the government. In still other cases, purchases by the allied governments, for example, copper and raw sugar, were included in the scope of price fixing for the United States Government; and in still others, the railways of the United States were specifically mentioned, even when the price did not apply to the public. Prices were sometimes fixed for single branches of the government, as in the case of oil products for the navy and cow-hide splits for the quartermaster's corps of the army. Prices were even fixed by the United States Government to apply to purchases by the allied governments only, as was the case with fuel oil, gasoline and kerosene.

The President, however, early took a firm stand for the principle that prices charged by producers to the public and to the government should be uniform, and, with the exception of prices on certain purchases made by government departments, rapid progress was made during 1918 toward carrying out this policy. Thus the prices on pine, fir lumber and cement, which at first applied only to direct government purchases, were extended to the public. Political motives coupled with a legitimate

desire to allay social unrest doubtless played a part in this extension. Aside from such motives, however, it proved to be highly important as a practical matter that prices under similar conditions of purchase should be the same to all. The existence in the commercial market of prices that were higher than those paid for government purchases made it difficult for the government to secure prompt deliveries. Moreover, such a situation often defeated the purpose of price fixing, for the reason that large purchases might be made by private concerns which were producing more or less directly for the government. Naturally, it was found much simpler to fix prices for government purchases only; and such a limited policy was preferred by several important industries, partly, no doubt, because they were thus enabled to reap large profits on sales in the commercial market. In cases where the price-fixing policy was extended to the public, it was sometimes found necessary to increase prices. The whole situation in this respect was specially complicated when the government purchases were confined to certain grades of a group of products which were produced jointly with other grades that were purchased largely by the public. In such cases, the government price might be, and sometimes was, fixed on a relatively low level, and the price to the public for joint products put high enough to allow the producer a large profit.

When the government took all, or almost all, of a given product, the price fixed was, of course, practically for the government only, whether it was so stated or not. But companies were often averse to making specially low prices to the government, on the ground that such prices would cause dissatisfaction in their trade.

The period of price fixing began about the middle of 1917, and came to a nearly complete standstill with the signing of the armistice. Among the earliest commodities to be affected by the price-fixing activities of the government were coal, wheat, lumber, sugar and canned foods. Lumber prices for the government alone were fixed by arrangement with the Council of National Defense on June 18, 1917, and approved by the Secretary of War; coal prices for the navy were fixed on June 19,

1917. The Lever Act of August 10, 1917, set a minimum price on the wheat crop of 1918. Bituminous coal prices at the mine were fixed by executive order on August 21, 1917. Nine days later came the President's announcement of a $2.20 basic price on wheat "to be paid in government purchases." The price of copper was fixed in September.

Immediately upon the signing of the armistice, the War Industries Board began to make preparations for disbanding, although it was arranged that the Price Fixing Committee should continue a rather nominal existence until March 1, 1919. Relatively few prices have been fixed since November, 1918, although those fixed prior to that time extended well over into 1919. Prices, as fixed, were allowed to expire in spite of the fact that in several important cases the representatives of the industry concerned asked that the existing price be continued. On December 11, 1918, the War Industries Board issued a statement to the effect that since it would cease to function after January 1, 1919, no new price agreements would be entered into by the Price Fixing Committee, and that all prices theretofore fixed would be allowed to expire by limitation. Several commodities, the costs of which had not been immediately ascertainable, had been consumed in large quantities by the government at prices subject to later determination. For example, during the latter part of January and the early part of February, 1919, the Price Fixing Committee of the War Industries Board fixed prices on common brick and on wall board. Inasmuch as the Food and Fuel Administrations depend for their powers upon the Act of August 10, which applies "during the war," they have continued to function down to this date (January 23).

2. *Agencies and Their Powers*

Of the various agencies through which prices were fixed the following are without doubt the more important: the Congress of the United States which by direct legislation fixed a minimum price on wheat; the President of the United States, acting under authority granted by Congress, who fixed prices for coal and wheat; the War Industries Board, created by the Presi-

dent under authority from Congress, which, through its Price Fixing Committee, fixed numerous prices from September, 1917, through November, 1918;[1] the United States Food Administration which fixed prices of hogs, meat, flour, sugar, binder twine *etc.;* local food administrators and sub-agencies, such as the Sugar Equalization Board and the United States Food Administration Grain Corporation which fixed many prices; the United States Fuel Administration which fixed prices of coal, coke *etc.;* the War Trade Board which fixed prices of rubber, quebracho extract and manila fibre; the Federal Trade Commission which fixed the price of newsprint paper; the Emergency Fleet Corporation of the United States Shipping Board which fixed the price of ship timbers and locust tree nails; the United States Shipping Board which fixed ocean freight rates; the International Nitrate Executive Committee which fixed the price of nitrate of soda; the Food Purchase Board which fixed prices on canned foods *etc.*, for the army and navy; various army and navy departments which fixed prices of gasoline and fuel oil, zinc oxide, automatic sprinklers, sashes and doors, castor oil *etc.;* the Appraisal Boards of the army and navy which fixed prices in cases of dissent from prices named in commandeer orders; and the United States Railroad Administration which took steps to fix reasonable prices on locomotives and cars.

The War Industries Board dealt with prices through its Price Fixing Committee, which consisted of a chairman, appointed by the President, and representatives of the army, the navy, the Federal Trade Commission, the Department of Labor and the Tariff Commission. The Fuel Administrator occasionally sat with the committee as actually constituted. The International Nitrate Executive Committee, on which the United States was represented, sat in London and determined a uniform monthly price to be paid to importers of nitrate of soda into the allied nations, and a sub-committee in New York, on which there was a representative of the War Industries Board, super-

[1] In January and February, 1919, several cases of price fixing for commodities bought at tentative prices were pending cost determination.

vised the distribution of the product within the United States. The Food Purchase Board was created to centralize purchasing for the army and the navy and consisted of representatives of the army, the navy, the Federal Trade Commission and the Food Administration.

In addition to the foregoing agencies, it is to be noted that in granting licenses to use enemy-owned or controlled patents, the Federal Trade Commission reserved the right to fix prices on the articles manufactured. The Department of Agriculture has also functioned materially in connection with prices fixed for certain commodities. For example, in determining the basic price of hogs, the agreement was made by a committee composed of representatives of the Food Administration, the Department of Agriculture and representatives of the industry. The Department of Agriculture has also functioned in connection with the sale of nitrates to the farmers, purchasing nitrate of soda and selling it "at cost."

It can hardly be said, however, that this department actually fixed any price. As time went on, a tendency toward greater uniformity and centralization of procedure developed within the price-fixing mechanism. This tendency is to be discerned in the increasing amount of work thrown upon the War Industries Board and the Federal Trade Commission, the former naming a price based largely upon the cost findings of the latter. For example, toward the end of 1918, the division of the army which dealt with aeroplanes brought before the War Industries Board the question of determining a price on mahogany for aeroplane propellers, and on birch for aeroplane bodies. The signing of the armistice prevented action by the board, except in the case of birch logs. Other illustrations of the tendency appear from the fact that the War Industries Board fixed the price of locust tree nails for the Shipping Board and the rate for compressing cotton for the Railroad Administration. It would be incorrect, however, to give the impression that centralization and uniformity in price fixing became the rule; in the writer's opinion, the tendency referred to was most effective when the branch of the government making the purchase ran into difficulties.

Within the War Industries Board there was what may be called a hierarchy in price fixing. With few exceptions, each case passed through a preliminary stage in the hands of the chief of that division of the War Industries Board which was concerned with the commodity in question, and he conducted preliminary negotiations with representatives of the industry. In some cases, his findings were carefully reviewed by the Price Fixing Committee, while in others this did not seem necessary, and the division chief virtually named the price. As will be noted, in some of the less important price-fixing arrangements, the Price Fixing Committee announced the price without the formal sanction of the President; and in a few cases, at least, it delegated price fixing to a sub-committee.

In initiating price fixing no systematic plan was followed and prices were at first fixed sporadically. Various governmental powers were resorted to and were applied by numerous agencies using diverse means for carrying out the decisions or agreements which they reached. In some cases, prices were fixed under special authority, conveyed directly by act of Congress, and limited by the provision of such act to specified commodities. Thus by Section 14 of the Act of Congress of August 10, 1917, already referred to, the President was empowered to fix "a reasonable guaranteed price for wheat." Accordingly on August 30, the President, acting upon the recommendation of a committee appointed by himself, promulgated a price of $2.20 per bushel for no. 1 northern spring wheat at Chicago.

The same law, commonly known as the Lever Act, authorized and empowered the President to license importers, producers, or distributors of "any necessaries, in order to carry into effect any of the purposes of this act;" and if he found unreasonable any storage charges, commissions, or profits, to revoke licenses and make findings as to reasonable profits *etc.* Section 10 of the act authorized him to requisition necessary foods, feeds, fuels and other supplies. Section 11 gave him power to purchase and sell at reasonable cash prices wheat, flour, meal, beans and potatoes.

The power under this act ran to the President, and the Fuel Administrator and Food Administrator acted under "executive

orders." Thus an order of the Fuel Administration begins as follows:

The United States Fuel Administrator, acting under authority of an Executive Order of the President of the United States, dated August 23, 1917, appointing said Administrator, and of subsequent orders, and in furtherance of the purposes of said orders and of the Act of Congress therein referred to and approved August 10, 1917, hereby orders and directs.

On the other hand, the War Industries Board acted under less specific authority proceeding from the general war powers of the President. Thus, the prices fixed on steel, copper, lumber, and other commodities by the Price Fixing Committee of the War Industries Board were in theory approved by the President before being publicly announced. In some cases, however, such as retail lumber prices in certain eastern cities, the prices were announced without formal approval by the President.

The means of enforcing prices when "fixed," whether determined by the price-fixing agencies or reached by agreement with the producers, were various, ranging from appeals to the patriotism of the trade to commandeering orders. In most cases, there was in the background the possibility of the government's taking over the industry; and in not a few, the army or navy commandeered plants or stocks of merchandise. In such cases, a price was named which was subject to adjudication, first by the Board of Appraisers and then, upon appeal, by the courts. On December 24, 1917, all wood chemicals (acetic acid, alcohol *etc.*) were commandeered for a period of six months and later the commandeering order was extended to cover the second half of 1918. In connection with this extension, the following notice was given: "The same prices as above are awarded by the Board of Appraisers, but dissent has been made by several of the manufacturers, and an investigation is now being made by the Federal Trade Commission as to the advisability of changing this award." In this case, therefore, the prices of commandeered articles, after being approved by the Board of Appraisers, were made tentative, subject to adjustment on the basis of subsequent cost findings.

Apart from purchases on army or navy account, however, price fixing was effected chiefly by "licenses" and control of "priorities." The Food Administration and the Fuel Administration, under the Act of August 10, 1917, put in force extensive systems of licensing, under which unlicensed producers and distributors were not allowed to engage in business, and licenses were revoked, if the regulations of the administrations were disobeyed. The War Trade Board also licensed importers of certain articles on condition that the prices which it fixed should be observed.

The administration of priorities proved to be a major element in the price-fixing program, and involved so many important questions that it would take an article of the length of the present paper to do the subject justice. Toward the end of 1917, a priorities division was established within the War Industries Board and a priorities commissioner placed at its head. Representatives of the Fuel Administration, the Railroad Administration and the United States Shipping Board were placed upon the committee. The War Trade Board, the Food Administration, and the army and navy were also represented. The Price Fixing Committee of the War Industries Board and the Priorities Committee worked in harmony. This was of the utmost importance, as it made possible a substantial degree of unity of policy among the different government purchasing departments; and through the power of the Priorities Committee over fuel and transportation pressure could be brought to bear upon a recalcitrant business concern for the purpose of compelling it to adhere to fixed prices. The Priorities Committee undertook whenever necessary to administer priorities in the production of all raw materials and finished products, save food, feeds and fuels. The distribution of fuel was, of course, under the supervision of the Fuel Administrator, and transportation service under the United States Railroad Administration, but the Fuel and Railroad Administrators were guided largely by the "preference list" issued by the Priorities Committee and by the recommendations of the division chiefs of the War Industries Board, and on the whole came to work in close relation to the general policy for which the committee stood. To sum

up, the Priorities Committee exercised a general function of adjusting production to the needs of the nation at war by allocating the limited supplies of fuel and basic raw materials, and its powers were sometimes used as a club to reinforce the authority of the Price Fixing Committee in particular cases.

This phase of the matter is so important that a concrete illustration is worth while. During 1918, it was decided that the production of the cement industry should be reduced and the amount of the reduction was placed at 25 per cent of the average shipments for the three preceding years. The Director of the Building Materials Division of the War Industries Board was the person immediately responsible for making these arrangements. On his approval the Fuel Administration applied the cut by limiting the quantity of fuel. As coal is an unusually large factor in the manufacture of cement, this was very effective. It should be noted that the Fuel Administration in such cases had nothing to do with deciding as to the priority, but that the matter rested with the War Industries Board.

The Army and Navy Appraisal Boards were called in to pass on prices in the case of commandeer orders issued for the requirements of those departments. When a commandeer order was to be issued, the practice developed of having the chief in charge of that division of the War Industries Board which dealt with that commodity approve the order in which the price was named. If, as was frequently the case, the companies producing the commodity were not satisfied with the price, the matter was brought before the Appraisal Board and a hearing was given. At this hearing, the representative of the War Industries Board testified, and, in some cases, costs secured by the Federal Trade Commission were presented in evidence. Appeal might be taken from the Appraisal Board to a superior board, and thence to the courts.

It is important to observe that members of both the Army and Navy Appraisal Boards sat on the Price Fixing Committee of the War Industries Board. To put the matter in another way, those members of the Price Fixing Committee who represented the army and navy were also members of the appraisal boards of these two departments.

It is apparent, therefore, that as finally worked out, the price-fixing machinery of the various government departments was nicely coordinated through a system of interlocking representation on the Price Fixing Committee, the Appraisal Boards and the Priorities Committee. Furthermore, the Fuel and Railroad Administrations were included in the community of interest.

Both by the War Industries Board and by other agencies, price fixing was often conducted under the guise of voluntary agreement. In the case of munition linters, the price-fixing announcement even goes so far as to say:

> It must be understood that the prices named are not obligatory or by authority of the War Industries Board, but are, in the opinion of the representatives of the United States Bureau of Markets and the Cotton and Cotton Producing Section of the War Industries Board acting as a Committee, fair and just prices that should be paid.

The announcement goes on to state, however, that in the event of failure to agree, the Ordnance Department may commandeer the linters, thus giving to the owners the opportunity to establish the actual value.

In some instances the government enjoyed a buyer's monopoly. When such was the case it could fix the price at any point which, in the producer's mind, would be high enough to be better than no price.

It goes without saying that no discussion of the power to fix prices would be complete without a reference to the part played by patriotism. While there can be no doubt that in the minds of business men in general, profits stimulated patriotism, yet a feeling of loyalty to the nation, or some substitute therefor, made possible much that would be difficult or impossible in times of peace. Publicity was made more effective; and not infrequently complaints and information came to the War Industries Board and other branches of government from patriotic third parties. The patriotism of possible purchasers helped to defeat the activities of such producers as were willing to sell their products to commercial buyers at higher prices than those fixed. Patriotism also secured a cooperation and service on the part of the

various industries that were essential to the success of the price-fixing program.

As already indicated, the progressive unification of government activities which took place during the war contributed to the effectiveness of the program. In the earlier days of the war, when the army and navy, the Shipping Board and other departments and agencies were bidding against one another on the markets, it was extremely difficult to secure price-fixing results.

Much might be written concerning the different degrees of compulsion that were used in connection with the different agencies and their powers. Suffice it to say that the compulsion used ranged all the way from actual commandeer orders through the revocation of licenses by Fuel and Food Administrations down to a bare and sometimes informal sanction of agreements entered into voluntarily between private parties.

3. *Methods*

In the United States there was little background or precedent for a program of price fixing. The Navy Department had a notably efficient organization for purchasing what it required at reasonable prices, and the army had a similar organization. But to deal with the broader problems involved in regulating prices to the public and to the government as a whole, there was no established political machinery or policy. As the scope of price fixing was extended, the methods were naturally somewhat improved; but it is unfortunate that there were not definitely formulated at the outset some general principles which could have been consistently applied by such agencies as the War Industries Board. As usual in this country, we went ahead in a hand-to-mouth fashion, building up precedents as we went. On the whole, it may be said that no definite policy was ever established with regard to the essential bases of price fixing.

Various methods were tried. In the first place, prices were fixed both directly and indirectly. As a rule, each commodity, the price of which it was desired to fix, was taken up directly and a specific price made for its purchase; but in some cases reliance was placed upon indirect control of the price of one commodity through direct control of the price of another. For

example, the cases of glycerine and zinc spelter may be cited. The price of dynamite glycerine was specifically fixed, and in connection therewith it was recognized that the price of crude glycerine would be controlled. "It is assumed," runs the order which fixed the price of the former, "that the price of crude glycerine may be stabilized by market conditions to a basis conforming to the prices specified for dynamite glycerine." In connection with the price of grade "A" zinc which was specifically fixed, it was known that the price of common spelter would be held below a certain maximum. Since purchasers prefer high-grade spelter, they would have demanded it, had the price of common spelter advanced to a point near the price of grade "A". The cost of redistilling common spelter for the purpose of producing grade "A" zinc was approximately three cents per pound. The producers preferred to sell common spelter at about nine cents per pound when the price of grade "A" zinc was fixed at twelve cents per pound. As the demand for high-grade zinc was great and the demand for common spelter was comparatively small, the producers of spelter were induced to redistill as much as possible.

In discussing the subject of indirect price fixing it should be remarked that the Administration hoped that by fixing the prices of such commodities as coal, iron, copper and lumber the whole price structure would be affected. While it is probable that a considerable part of the reduction in the price of such materials went to increase the profits of those engaged in later stages of production and in the distribution of finished products, nevertheless, it is undoubtedly true that to some extent these hopes were realized. Who can say what the prices of many finished commodities entering into the daily consumption of the average man would have been, if the prices of coal and iron had not been held in check? And is it not probable that if the prices of hides and leather and cotton had been effectively fixed in 1917, the prices paid by the consumers for shoes and shirts would have remained at more reasonable levels?

A most interesting and important phase of the government's indirect price-fixing activities lies in the attempts made to restrain or maintain prices by controlling demand. It is to be

hoped that a special study will be made of these attempts. The efforts to reduce the consumption of tin, platinum, coal, sugar, wheat and meat were notable. These efforts culminated in rationing (sugar) and the requirement of purchases of substitutes (wheat). The restriction of demand was supplemented by steps to prevent waste and to improve methods of production, *e. g.*, cleaner threshing of wheat. Most of these "conservation" measures are to be approved without reserve.

Closely connected with the conservation phase as seen in control of demand, rationing *etc.*, were "stabilization" and pooling. But pooling, while partly used to facilitate rationing (as in the case of sugar), may also be used to keep prices up, either locally or throughout the entire market. In at least three cases, wheat, sugar and tin, the government entered upon a pooling program for the purpose of stabilizing prices. Stabilization is a term which implies mixed motives, a considerable part of the object commonly being to maintain or keep up prices,—at least in a part of the field. This was the case with the Sugar Equalization Board and the tin pool, to say nothing of the government's grain corporation. It is doubtful, however, if government monopoly of supply has proved desirable.

The degree of precision with which prices were fixed varied widely from commodity to commodity, ranging from a loosely determined maximum price to a careful determination of the definite price to be charged for a particular commodity on a particular purchase. As a rule, only maximum prices were fixed, although in a majority of cases the price named as a maximum was the one which actually prevailed. This apparently was not infrequently taken for granted by the price-fixing agency; and it was not until the price-fixing program had been considerably developed that the significance of the word "maximum" came to be realized. This was natural during a period of rapidly advancing costs, especially in view of the fact that the price was ordinarily fixed on the basis of costs ascertained for a period that had already expired. In important cases, however, the actual market price fell below the maximum named by the government. This

was true of zinc plates and sheets and certain kinds of lumber. Also in the case of rubber, a price was named by the War Trade Board as a maximum, which was considerably higher than the market price. These cases are all easily explained. The raw material for zinc sheets probably existed in over supply and was abundant and cheap; the lumber-production capacity was in excess of demand, and in particular cases competition of cheaper lumber prevented other kinds from getting a price which was equal to the cost of production. In fixing the price of rubber, the War Trade Board had in mind merely a general limit upon the possible effects of speculation and hoarding on the future market, while the large production by rubber plantations and competition kept prices down. Toward the end of the war a number of commodities fell somewhat below the existing maximum price.

As already noted, a minimum price was fixed for wheat, the reason being that it was desired to guarantee the market in this case and thus encourage production. The price of hogs was also fixed on a positive minimum basis after the attempt to maintain the price on the basis of a fixed ratio to corn had failed. Wheat also furnishes a case in which both a maximum and a minimum price were specifically fixed.[1]

The fixing of the exact price which it was intended should prevail in the market was ordinarily resorted to in the case of purchases by departments of the government. These included a considerable part of those commodities which may be classed as munitions of war, such as nickel, quicksilver and castor beans, the last needed for the manufacture of castor oil to be used as an aeroplane-motor lubricant.

The extent of the producing territory covered by a fixed price is a matter of some importance in a discussion of the precision of price fixing. When the price of a widely produced commodity was fixed for the whole country, wide differentials of profit were the result; when the country was divided into districts or territories, for each of which a different price was fixed, the price could be made to conform more closely to the

[1] See above, pp. 9, 12.

different costs which naturally prevail in different parts of the country. This distinction is well illustrated by the problems which the Fuel Administration met in fixing the price of coal. Much of the criticism of the early price fixing for this commodity arose out of the attempt to apply a single price over large areas within which the costs of production varied widely; and as the cost findings of the Federal Trade Commission became more numerous and detailed, prices were fixed on a finer and fairer scale.

In fixing the price of a number of commodities, such as lumber and leather, it is practically necessary first to fix an average base price on the material from which several grades of product are secured. This is one of the difficulties attending the control of prices of commodities which are produced under the condition which economists call "joint cost." Clearly when the Price Fixing Committee merely determined that a fair, maximum, average price for mill-run lumber was $28.00 per thousand board feet, the price to be charged for "B and better" flooring, or No. 3 common boards, remained indefinite and uncertain. Moreover, the percentage of the different grades of lumber secured from the log differs among the different sawmills, so that even though the base price might be satisfactorily allocated among the several grades, hardly any two mills would secure the same average result.

Finally, no discussion of the degree of precision attempted in fixing prices would be complete without reference to the method of fixing the margins of producers' profits, which was so much in use by the Food Administration. Obviously a result similar to that obtained by naming a price may be gained by limiting profits. Thus, an effort was made to restrict the profits of the meat packers to 2½ per cent on sales, and in the case of the five largest packers a maximum margin on meat of 9 per cent on investment was named. The flour millers also were limited to a profit of 25 cents per barrel. Dealers in cottonseed and peanuts, both ginners and others, were limited, beginning with July 1, 1918, to a margin of $3.00 over cost (not replacement value). This method was also largely used by the Fuel Administration in an attempt to regulate the price

of coal to consumers, and in this connection the rather elaborate regulation of the margins to be made by the lake forwarders is noteworthy. The margins effective June 1, 1918, ran from 20 to 95 cents per ton according to the nature of the transaction. In a considerable number of cases the rates of commission or margins of profit were imposed not only on dealers in coal, meat and flour, but also on those in newsprint paper, retail lumber and other commodities. In addition to all this there was the attempt to fix retail prices directly by publishing fair prices, as was done by the Food Administration in the case of groceries.

When the cost to a dealer of a commodity is definitely fixed, and the dealer's margin is definitely limited to a certain amount per unit of product, the resulting price may be said to be fixed with a considerable degree of precision; but when the base price is not definite, or when the amount of margin is expressed in terms of a percentage on investment, sales, price or cost, the resulting price cannot be said to be precisely fixed. A margin fixed as a percentage on cost is a more definite sum than one fixed as a percentage on sales or on investment. Indeed, there is an element of circuity when the selling price is made the basis, as the higher the price, the larger is the absolute amount of the margin required to return any given percentage on sales. Apparently the fixing of margins, which was prevalent in attempting to control the prices charged by middlemen and dealers, generally resulted from a desire to extend price control more directly to the "public;" that is, the f. o. b. mill prices of basic commodities having been regulated, it became necessary to regulate the margins which the middleman might add to the manufacturer's prices. However, as will be observed at another point in these articles, the various attempts of the Food Administration to limit profits cannot be said to have been thoroughly effective.

Price fixing in the way of restrictions on margins passed into the realm of hopes and aspirations in such cases as the earlier regulation of the lake forwarders by the Fuel Administration, and the cotton ginners by the Food Administration, for in these cases the producers were merely urged to charge "reasonable" prices. Much the same may

be said of the somewhat tentative moves made by the Oil Division of the Fuel Administration toward fixing the price of petroleum and its products. In July, 1918, the Oil Director made some proposals with regard to fixing the differential between the prices of crude and those of refined products; and about the middle of August he announced a plan to stabilize the price of crude oil, stating his belief that this would prevent radical changes in the price of refined products. It does not appear, however, that the plan had any appreciable affect upon prices.

It seems fair to conclude that, from the foregoing point of view, there were three chief types of price fixing: (1) *maximum prices*, in the case of basic staples which have wide public interest,—often recognized as "pegged" prices when any scarcity or rapidly advancing cost exists; (2) *definite prices*, (a) to encourage production by guaranteeing returns, (b) government purchases (direct or indirect) in the nature of single transactions; (3) *margins*, (a) absolute amount per unit, (b) percentage on sales, cost, or investment, this method being used when it was desired to cover the distribution of products, the marketing of which was not integrated with manufacture. The minimum price, strictly speaking, was the exception, but is logically associated with the definite price which is both maximum and minimum.

Another distinction of some importance with regard to the method of fixing prices involves the point at which the price named was to apply. Some prices were made on an f. o. b. factory basis, while others were on a delivered basis. In this respect the practice prevailing in the industry was partly followed. The tendency, however, was to fix prices on an f. o. b. factory or mill basis, a natural tendency when the price is based on cost. In a majority of cases, prices came to be made f. o. b. the producer's plant.

In many cases, however, it was common to quote prices f. o. b. some market basing point. This was notably the case with such products as copper, which was always quoted f. o. b. New York, although the metal was secured from mines in Michigan, Montana and Arizona, and refined at various seaboard points.

The price of "packer" hides when fixed was "based on Chicago freight," which meant that three-fourths of a cent per pound was to be deducted from the price made by the Pacific Coast producers, and that in shipments from other states, the price was not to exceed the price on Chicago shipments. Further, the price of North Carolina pine was fixed on the basis of deliveries to Virginia "gateways."

In the case of commodities for which there were several competing producing areas, there was often a tendency to quote prices on a delivered basis. Prices delivered were fixed on New England spruce, Pennsylvania hemlock, cement, hollow building tile, iron and steel scrap, and oil products for the navy. The situation in the case of hollow building tile will furnish some explanation of this tendency. The chief producing area for this commodity is centered in Ohio, while there are other producing territories in the south, in New Jersey and elsewhere. In order to stabilize market conditions and to divide the market, the representatives of the industry desired to fix prices on a delivered basis. In this way, by fixing a delivered price sufficiently low, they would prevent the low-cost producers in Ohio from coming too far east with their product; while, if the price were fixed f. o. b. the plant, there would be no limit to the area which might be covered by the low-cost producer, except cost of freight and desire for profit. The producers of yellow pine lumber also objected strongly to fixing prices on an f. o. b. mill basis, their motive being to preserve the *status quo* in the distribution of territory among the southern pine producers, and between such producers and the west coast lumbermen. They argued that an average base price on mill-run lumber would be affected by changing the market areas; that delivered prices were the custom of the trade; that the weight of lumber, and consequently the freight rate, was uncertain, (the amount of moisture being affected by seasonal conditions); and that the disturbances in producing areas which would result, would be a public disadvantage. Nevertheless, the tendency was away from the delivered basis, as is illustrated by the fact that southern pine lumber prices were made f. o. b. mill; and that in the case of hemlock lumber, the system of

delivered prices was discontinued in May, 1918, and f. o. b. mill prices were substituted therefor.

Had the war continued much longer, there can be little doubt that adjustments in railway rates would have become a part of the price-fixing program,—just as rates on government railways have in several countries been a part of the system of protection. Special railway service was given in a number of instances as a direct part of price fixing, as, for example, the arrangements made to furnish transportation to the Douglas fir lumber mills for the purpose of relieving them of accumulations of low-grade lumber. In the case of price fixing on manganese ore produced in the United States, an integral part of the scheme was the announcement of special railway rates applying to such ores.

Prices were fixed for various periods of time, but in general it may be said that on account of changing conditions the periods were short. Perhaps the period most frequently chosen as the one during which the price was to apply was three months. A much shorter period would have created too much risk and uncertainty in marketing, to say nothing of the strain upon the price-fixing machinery; while a longer period was not, as a rule, desired by the representatives of the industries, especially during a period of increasing costs. Various special exceptions might be cited, such as the case of wheat, in which the price was fixed for the crop of a given season. The prices of meat and coal were fixed for indefinite periods, and the same was true of manganese ore. The price-fixing announcement with regard to New England spruce stated that the price was to remain in effect till July 1, 1918, or such prior time as the Federal Trade Commission might report concerning costs.

In numerous cases the price was left open, pending some form of determination after the delivery of the commodity. Thus, canned salmon bought by the Subsistence Division of the Army was partly paid for by "advances," pending the determination of the cost of production by the Federal Trade Commission. Considerable quantities of wall board and common brick were delivered for use in government construction during 1918, although the prices were not determined until January and February, 1919.

II

IN the first article of this series price fixing in the United States during the war was discussed with regard to its scope, its agencies and its methods. The present article is intended as a critical and analytical study of the activities of the principal price-fixing agencies. Its object is so to classify and analyze the various cases of price fixing as to make clear the nature of the problems that were involved and to suggest principles. These two articles, it is hoped, will furnish an adequate basis for a critical appraisal of the price-fixing policy of the United States during the war which will be the subject of a concluding article.

To fix or not to fix was the first problem to confront the price-fixing agency when its services were invoked. In not a few instances a study of the situation revealed that price fixing was unnecessary or was even positively undesirable. Sometimes representatives of an industry wished to have prices fixed for the purpose of facilitating a program designed to eliminate competition or to enable them to maintain very profitable prices. Sometimes, also, buyers demanded price fixing, when, as a matter of fact, prices received by producers were, relative to their costs, quite low; and, on the other hand, producers of raw materials sometimes urged it, as in the case of zinc ore, when, as a matter of fact, the margins made by the manufacturers were small. In the case of common zinc, or "prime western spelter", price fixing was contemplated, and the cost of production was ascertained by the Federal Trade Commission. No price, however, was fixed; and while the results of the investigation were not published, it was generally known that common zinc was being sold at less than cost. The production capacity was in excess of demand, which had fallen off greatly. Under these circumstances, it would have been economically undesirable to fix a price on the basis of cost plus a reasonable return on investment, since it would have delayed the inevitable adjustment of supply to demand. This was recognized by leaders in the zinc industry.

In the case of mohair, it was decided after a conference between representatives of the Mohair Growers and Producers Association and the Wool Section of the War Industries Board, not to fix a price on the fall clip of 1918. The War Industries Board announced that the cost of producing mohair appeared to be in excess of anything the government could afford to pay, considering the uses to which this product could be put, and that the needs of the government were not such that it then felt justified in fixing the price below the cost of production claimed by the growers.

The problem of whether to fix prices or not presented itself very forcibly to the Oil Division of the Fuel Administration and was virtually answered in the negative. All that the public knows is that, while the price of ordinary gasoline was not advanced, the prices of the other petroleum products yielded jointly with gasoline—notably fuel oil—were greatly increased, with the result that during 1918 the average profits of refining companies were considerably larger than during the three years, 1913, 1914 and 1915.[1]

In the cases in which it was decided to fix a price, the chief problems may be conveniently discussed under the heads of cost, demand and investment, together with sections on such practical aspects as integration and contracts.

1. *Marginal Cost as a Basis for Price Fixing*

Various bases for determining the reasonable maximum price to be fixed were used, but it may be said that, on the whole, the prevailing tendency was to fix prices on the basis of cost, a reasonable allowance being added for profits. In this connection the work of the Federal Trade Commission in ascertaining from the books of the producers the actual cost of production and the investment, was of great importance; and President Wilson early indicated that the Commission's findings should be fundamental in connection with the price-fixing activities of the War Industries Board. While the bulk of the

[1] Federal Trade Commission Report on Profiteering, 1918; published as Sen. Doc. no. 248, June 27, 1918.

cost work was done for the War Industries Board, it should be noted that the Fuel Administration, in regulating coal prices, had to proceed under certain definite rules laid down in the so-called Lever Act of August 10, 1917, which provided for the fixation of maximum prices, based on " the cost of production, including the expense of operation, maintenance, depreciation and depletion ", adding thereto " a just and reasonable profit ". In fixing prices for coal dealers, the price-fixing agency, the law runs, " shall allow the cost to the dealer and shall add thereto a just and reasonable profit ".[1] With regard to the work of the Fuel Administration on coal (not oil), the large amount of intensive statistical and accounting work that was done should be noted. A large force of Federal Trade Commission statisticians and accountants was put at the disposal of the Fuel Administration. Though perhaps impossible to answer, the question is worth raising, whether the relatively large volume of criticism directed toward fixing prices of coal (not oil) is not indicative merely of a more accurate basing of prices on marginal cost than obtained in most other cases.

Beyond a doubt, the fundamental question in fixing prices that are based on cost, is the determination of what may be called the " marginal cost ". This cost may be explained as follows: It is frequently the case that when the several individual costs for a group of producers are accurately ascertained and are ranged in their order from low to high, there will be a variation among them of 100 per cent., the high cost being double that of the low cost. Ordinarily the bulk of the production comes from those companies whose costs are below the average, though this is not always the case. It does not follow, however, that the average cost gives the basis for a fair price. If 25 per cent., or even 10 per cent., of the production comes from high-cost companies, and *the entire output is needed*, the average cost cannot be the basis of price. It is true that in many cases prices were fixed on the basis of average cost, both by the War Industries Board and by other price-fixing agencies; but as time went on their methods were perfected, and the

[1] See below, p. 43.

practice of taking a "representative cost" developed. This representative cost was very similar to what the economist calls the marginal cost, meaning the cost of the highest-cost producer able to produce without loss at any given price. It was sometimes called the "bulk-line figure". In price fixing, of course, the price is not established by objective market forces but is to be determined; and the marginal cost depends upon the quantity required and the cost of the least efficient producer who has to be included in order to call forth that quantity. Largely on the basis of experience in certain basic industries, the representative cost was often taken to be that cost which was just high enough to cover the costs of those lower-cost companies which could produce 80 per cent. of the total production. It will be found that if the costs of the producers of any industry are arranged in a series from low to high, there will be a relatively few very low costs and a relatively few very high costs; and if the lower-cost producers required to make up 80 per cent. of the production are taken in one group, most of the remaining producers will fall in the group of those having very high costs. As the high costs of such producers are attributable either to abnormal conditions or to inefficiency or to unfavorable natural conditions, it is reasonable to ignore them in the determination of representative costs. Ordinarily they either would not make much, if any, profit under competitive conditions or their high costs are caused by abnormal conditions which they hope will disappear.

The elimination of some of the high costs and the use of some marginal figure, was especially necessary when monthly costs were used as the basis of price fixing, since the cost ascertained for a single month may be quite abnormal on account of a temporary reduction in output or the inclusion of items which should be spread over a longer period. Consequently, to base prices on a series of maximum monthly costs would give impossible results. To a considerable degree the same observation applies to quarterly costs.

It is true, as already observed, that average costs were sometimes used; but it will be found that where this was done, one

or another of the three following conditions prevailed:[1] (1) The "costs" used were not true costs, perhaps including interest on investment or allowance for contingencies or profits on raw materials used; (2) the allowance made for margin over cost was liberal enough to take care of the producers whose costs were above the average; (3) the position of the industry was such that the producers were willing to take a low price. There is no sound argument to be made in favor of using the average cost. If a smaller output is desired, it is to be gained by moving the margin or "bulk line" down to a point at which the output of the marginal and supra-marginal producers equals the desired quantity.

In the average case of price fixing, the gist of the method used by the Price-Fixing Committee was as follows: First, some idea of the quantity of the product under consideration which was likely to be demanded, was arrived at, which, of course, involved a knowledge of the stocks on hand. Second, the quantity which each producer could turn out was ascertained. Third, each producer's cost of production was computed for the most recent period available. Fourth, the average investment involved in the production of the commodity concerned was determined and reduced to the basis of investment per unit of product.

The first three of these items bear directly upon the determination of the representative or marginal company for price-fixing purposes. Take, for example, the case of copper. If, after due consideration of stocks on hand, it should be determined that the needs of the government are 100,000,000 pounds per month, that the larger companies, having lower costs, are producing about 100,000,000 pounds per month, and that the highest cost of any of these larger companies is 19 cents per pound, then the representative or marginal cost may be taken to be 19 cents. This procedure would be logically strengthened if it happened that the production of the smaller companies was only a small percentage of the total output of copper, say 15

[1] On this point see L. H. Haney "Price Fixing in a Competitive Industry; A Pioneer Case", *American Economic Review*, March, 1919.

per cent., and that the higher costs of such companies are due to inefficiency in the sense that they have not been able during recent years to make any regular net earnings. Under such an assumed case a "bulk line", or margin, might be fixed at something over 80 per cent. of the total production and 19 cents per pound be used as the cost upon which price fixing would be based. If, now, it were the fact that representative copper producers had in normal years made margins of about 6 cents per pound over their cost, the basis for a price in the neighborhood of 25 cents per pound would be established.

The conditions which facilitate the determination of a reasonable marginal cost for price fixing are: (1) a knowledge of the requirements of the market, or in war times a knowledge of the needs of the government and its agencies; (2) a knowledge of the output and capacity of the plants concerned; and (3) the existence of an output or an immediately available capacity which is equal to or in excess of the requirements. There can be no doubt that price fixing in the United States was handicapped by uncertainty as to the quantity which it was desired to have produced, which uncertainty was in some cases due both to ignorance of the available stocks and to uncertainty as to future requirements. Naturally these conditions obtained most notably in the earlier months of the war, and the organization of staffs to collect exact statistics for the War Industries Board improved matters as time went on. But a part of the difficulty lay in the wavering programs of the different departments engaged in war construction of one kind or another. It was a difficulty inherent in the situation that the departments were apt to overestimate their needs, while the producers were apt to overestimate their capacities and underestimate their stocks. When the industry was obviously able to produce in excess of a possible demand of its product, as was the case with lumber and cement, it was relatively easy to insist upon the use of a representative cost which had some real marginal significance, that is, one which was only high enough to just cover the highest-cost producer needed to supply the quantity required. But when, as was the case with copper, the best available figures seemed to indicate that production would be almost exactly

balanced by consumption, it became more difficult to deal with the importunities of the high-cost producers; and when a known shortage existed, or was believed to exist, as in the case of wheat,[1] ship timbers, quicksilver and copper, the price-fixing agencies were apt to fix the price with little regard to cost. In some cases, *e. g.*, wall board, this disregard of cost was concealed by authorizing the companies to proceed with production and even to construct new plants with the understanding that the price would be fixed at some subsequent time on the basis of cost.

Of course, when the three conditions enumerated above were absent, the determination of the margin was made much more difficult. In the writer's judgment, however, the problem of determining a satisfactory marginal cost for price fixing is not insoluble, and as this is perhaps the crucial point in price fixing, a word should be said about it. There are two great dangers to be reckoned with. In the first place, there is the danger that the requirements will not be correctly estimated, especially when a commercial market exists over and above the government's needs. One factor in the situation which must remain unknown in war times is the duration of the war, a factor whose importance is now amply illustrated by the problem of dealing with large government stocks of materials which followed the relatively sudden signing of the armistice. In any event, war requirements may differ widely from those of normal times. It is easy to make too great concessions to those who desire to keep "business as usual", and to underestimate the requirements of the military program. The second danger lies in a failure to adjust the required production to an efficiency basis. By this is meant that the price-fixing agency may fail to take the steps necessary to insure that the quantity of the product under consideration will be secured as largely as possible from low-cost, efficient producers. There was an unfortunate tendency to spread the business over the entire range of existing producers, instead of concentrating it as much as possible with the

[1] The *minimum* price of wheat was fixed with regard to such imperfect cost data as were available.

more efficient. This constituted a touch of "stabilization". In dealing with cement, for example, it is probable that the government and the public would have been much more cheaply supplied had some of the high-cost plants been closed down and the most efficient ones operated at capacity.[1]

But, in spite of these dangers, much can be done and was done to arrive at a reasonable basis. It is to be borne in mind that prices were fixed at frequent intervals and applied for a short period, say three months. Accordingly, recent experience could be drawn upon. For example, the actual requirements of the preceding three months could be known; and, furthermore, the rate of increase or decrease in requirements during a series of preceding short periods could be used as a basis of estimate. Moreover, the estimates of requirements were made for a relatively short period and could be revised at the expiration thereof. It was also possible to make allowance for increase in the output by the larger and more efficient producers, although but few, if any, illustrations of such allowance can be found in the actual practice of price fixing. That, however, is a limitation of price fixing as actually conducted, not as it might be conducted; and the fact remains that copper prices might have been somewhat lower without reducing the total output of copper, for the reason that the large producers could easily have used the labor employed by the small, high-cost producers to a better advantage.

2. *Integration in Relation to Price Fixing*

The existence of different degrees of integration among the different companies engaged in a given industry gives rise to difficult problems in price fixing which are related to cost. On the whole, the tendency of the Price-Fixing Committee of the War Industries Board was to deal solely with the price of finished product (chiefly the basic materials of industry) f. o. b. the plant of the manufacturer, regardless of the differences in degree of integration. There were some important exceptions

[1] In a few cases, cement companies actually did close plants and supply their customers from the most efficient single source.

to this policy, however, notably in the cases of iron and steel; and other price-fixing agencies, such as the Fuel and Food Administrations, pursued a different plan. In general, it may be said that when the price was fixed on a finished article of wide consumption, separate prices were fixed for the different stages of production, as is illustrated by the fact that prices were named not only on flour, but also on wheat and on bread. This was especially true when a large part of the product was produced by non-integrated concerns.

The logic of the War Industries Board seems to have been to fix the price of the basic materials and to rely upon such action to affect the whole price structure, supplementing it by regulation designed to restrict speculation by dealers and to prevent unnecessary resales. It will be observed that this policy leaves the various stages of production, prior to the emerging of a finished product, without price regulation. A good illustration is furnished by copper. In this industry it is true that the integrated companies are decidedly the dominant element. It is true that there are wide differences in the degree of integration, ranging from the complete integration of the Anaconda Copper Company down to an almost complete lack of integration in the case of numerous small mines which ship their ore or concentrates to some big smelting company in Arizona. The smelting company in turn may ship "blister" copper to a separate refinery on the Atlantic seaboard. Copper ore may be bought and sold; and the product of the smelteries, whether "matte" or "blister", may also have a separate price. Moreover, the owners of independent copper mines have in some cases demanded that the price of their ores be fixed in order to protect them against the hard terms made by the smelting companies. Indeed, some formal protection to the mines was afforded through the good offices of the Non-Ferrous Metals Division of the War Industries Board; and with the help of the same agency, by agreement between the smelters and refiners, an adjustment was made in the payment received by the copper refiners which amounted to a modification of the price of "blister" copper. The quantity of copper produced by the small miners, however, is relatively

so unimportant, and the refiners are so closely related to the large miners and smelters, that these adjustments are hardly to be considered as exceptions to the rule. The only price fixed was that on refined copper.[1]

The iron and steel industry is different from the copper industry, in that the number of different stages and products is greater, and the integration accordingly is not only much more complex, but less uniformity exists among the producers. Indeed, the production of raw steel—or, perhaps, even pig iron—is analogous to the production of copper, while the combination of the manufacture of iron and steel with the manufacture of coke, and the production of steel and the numerous steel products by the same companies which produced the pig iron, makes this industry much more of a problem to the price fixer. A considerable part of the product is made by concerns which are not completely integrated. Accordingly, not only was a price fixed on iron and steel products, but also on iron ore, pig iron and raw steel. More than this, while the earlier price fixed for steel products was not advanced, the prices of pig iron and of iron ore, which products are partly produced by separate non-integrated concerns, were somewhat raised. Also, by arrangement with the industry the least integrated producers were furnished their raw steel at a price somewhat under the marginal cost price for that product.

The general conclusion, therefore, to be drawn concerning the relation of integration to price fixing is that when a controlling part of the supply of any given product is produced by concerns which are not completely integrated, especially as to the earlier stages of the industry, it is practically necessary, in price fixing, to control the price of the chief semi-finished products; but that when a controlling proportion of a product comes from producers who are more or less completely integrated, this necessity does not exist, although some protection may be required for independent producers in the earlier stages. Also when the object is to protect the consumer of products

[1] This is approximately true, but a differential was fixed to cover the extra cost of casting refined copper in certain shapes or molds.

which are distributed by separate wholesale and retail agencies, it would probably be necessary to control the wholesale and retail prices as well as the price f. o. b. factory or mill.

3. *Minor Problems Connected with Cost*

Numerous minor problems involved in ascertaining the cost basis for price fixing might be distinguished. It was frequently the case that actual cost figures were not available at the inception of price fixing and in such cases it was common for representatives of the industry concerned to appear with statements showing large percentages of increase in their costs for labor and materials. Such claims generally proved to be specious. The cost of labor may increase 100 per cent. and the price paid for explosives 300 per cent., while the total cost per unit of the finished product may increase but 10 per cent. or may actually decrease. The Price-Fixing Committee early found that a controlling factor in unit costs was the volume of output, which was often closely associated with the grade or quality of the raw material and, in spite of increases in various individual items of cost, a considerable increase in volume of production by plants not already working at full capacity might more than offset such increases by increasing the quantity used as a divisor.

Even when the actual figures were presented, it was not infrequently the case that they were erroneous or not representative. Among the more common shortcomings of the cost data submitted were: the inclusion of items of cost in the charges for a particular period, which should have been spread over a longer period; the inclusion in cost of items which should have been capitalized as being additions and betterments; the inclusion in cost of items which should have been charged directly to the profit-and-loss account or have been deducted from the selling price; and the presentation of costs based on abnormal operating conditions. The last point would be illustrated by the case of a lumber company which voluntarily or involuntarily operated during a given month under abnormally difficult conditions, such as peculiarly rough or swampy land and poor timber, *i. e.*, mixed, scattered, small, blown down.

Even when the actual figures were available and covered rep-

resentative operations, their shortcomings, as a basis of cost computation for price-fixing purposes, were sometimes apparent. Cost, to the accountant, properly covers only such items of expenditure as are actually paid out or accrued during the period under consideration. Consequently, certain risks and hazards, which are covered by what the economist knows as gross profits, do not appear upon the books; some of these items might even be the result of the price-fixing operation. For example, there was often an uncertainty as to the market, especially in the case of by-products.[1] During the war labor and transportation difficulties in some cases lengthened the period of the "turnover", making the period during which the material was "in process" longer, with additional risks and carrying charges. A condition frequently met with was that of a real or alleged necessity for maintaining a selling organization which was not needed in connection with government purchases. It was argued, and in some cases rightly, that the company could not afford to sell to the government at a price which would not contribute something toward the maintenance of a selling organization which had been built up at great expense and which would be vital to the existence of the company under normal circumstances. Here, too, may be mentioned the fact that in most cases a period of at least a month necessarily elapsed between the time that the cost figures were available to the price fixer and the period to which the figures applied. Consequently, it was almost always necessary to make some allowance for variation in costs between the period for which the figures were secured and the period during which the price was to apply. This might be vaguely allowed for in the shape of a "liberal" treatment, or attempt at greater definiteness might be made by adding to the costs a certain percentage, based on the rate of increase for a similar period in the past. In several industries it was found that between the autumn of 1917 and the middle of 1918, costs increased about 30 per cent.; and when costs were available only for the second half of 1917 for fixing a price in the middle of 1918, this percentage

[1] See below, p. 39.

was added to the available costs, as was the case with sand and gravel.

In several instances, when labor cost was the chief factor in the situation, the percentage of that cost to the total cost was ascertained and this percentage applied to a known increase in pay-roll to estimate the current cost. This method was at one time used in the cases of lumber and copper. Assuming any given volume of output, it is easily possible to make a very close estimate as to the effect of a given advance in wages upon the average cost per unit of product. And during a period of increasing wages, such estimates may be very useful.

4. *Demand; Joint Cost and Interrelated Products*

The price-fixing agencies were soon confronted by the difficulties which attend any dealing with products which are jointly produced; that is, different products which are produced with a joint cost that cannot be specifically assigned to any one of them. Two general cases of this sort may be distinguished: First, the products may all be commercially of similar importance and may all be called main products. As such, each of them is ordinarily sold at a price which allows a profit over the average cost of production of the group, and the producer consequently desires to increase his output of each of them. This is the case with the principal kinds of lumber and timbers secured from a log; and another good illustration is found in the gasoline and fuel oil secured from a barrel of crude petroleum. A variation of the same idea is illustrated by the different grades of logs secured by lumbering operation, for in this case we do not have products which differ in kind, as do gasoline and fuel oil, but, instead, the difference lies merely in the length of the log *etc*. The second case of joint production involves what are called by-products. Such products are in a commercial sense relatively unimportant to the company producing them. They are well illustrated by the recovery of small amounts of the precious metals from copper ores which are smelted solely for the purpose of recovering copper and would be so smelted even if there were no gold or silver in them. The by-product is either relatively small in *total* value or is apt to sell consider-

ably below the average cost of the group, and the producer, therefore, desires to reduce the output to a minimum.

With regard to individual joint products, it is impossible to ascertain an exact cost, but cost can be used only as a rough, general guide to price. As a rule, therefore, the procedure has been to ascertain the average cost for the group of joint products as a starting point. Then, one of two courses has been taken; either an addition has been made to the average cost to allow a return on the average investment, thus arriving at an average price, or the average cost has been allocated to the several joint products and additions made to the allocated costs to arrive at separate prices for the said products.

For by-products the general rule was to fix a price on the main product only, the by-product being covered by deducting from the cost of the main product[1] the net returns received from the sale of the by-product. For example, the cost of copper was reduced by the value of the gold and silver recovered. This was the course taken when the by-product was salable. In case, however, there was no market for it, or in case the market was rendered precarious, the procedure was either to add the loss on the by-product to the cost of the main product or to make some estimate in the shape of an allowance for risk. This was done in the case of the government price for mahogany lumber for propeller blades. It was felt that a large quantity of low-grade mahogany lumber would result from the efforts of the companies to supply the government with propeller stock and that the accumulation of such low-grade stock might result in a loss to the producer.

Clearly, in case of joint production, the price fixer is forced to take demand as a chief basis, rather than cost. This is also true, as will be shown, of other interrelations in production.

Other interrelations between products which complicated price fixing existed almost without number. Two entirely separate products may have the same raw material, with the result that it becomes necessary to consider the effect of increasing

[1] This, of course, includes a large part of the cost involved in securing the by-product.

the price of one of the products over that of the other, thus giving it greater power to command the raw material. Such was notably the case with fertilizer and explosives. Both required large quantities of sulphur, and if the price of sulphur had been fixed too low, sulphuric acid manufacturers would have been encouraged to burn brimstone to an increasing extent in place of sulphur-bearing ores. Also munition linters, cottonseed oil and meal, all come from the same material, cottonseed; and an important and difficult problem confronted the Food Administration in so adjusting the price of oil that cottonseed meal might be kept at a reasonable price.

Again, two products may be interrelated by being combined to make a finished product, as iron and zinc which are combined to make galvanized iron, zinc and copper to make brass or gypsum and paper to make wall board. The high price of iron was reflected in the price of galvanized iron, with the result that the demand was greatly reduced, and the price of zinc fell so low that after investigation it was not found necessary to fix it.

Finally, two or more products may be substitutes. This is notably true of certain fuels,—coke, coal and fuel oil; certain raw materials,—pyrites and sulphur; various metals; and certain consumption goods, such as wheat and corn, cottonseed oil and other vegetable oils.

An excellent illustration of the complexity of price fixing under such circumstances is furnished by the Food Administration in dealing with the cottonseed industry. About September, 1918, a great demand arose within the cottonseed industry for "stabilization". Cottonseed oil prices showed a downward tendency on account of the competition of foreign vegetable oils which could be substituted for the domestic product, and as a result it appeared to be necessary to advance the price of cottonseed meal, which was a joint product with the oil. Such an advance would increase the expenses of cattle feeders. In conference with the Food Administration, the producers recommended prices which were practically the same as those of the preceding year, this being a concession to the interest of the cattle-feeding and dairy industry; the crushers had differentials fixed to allow for their increased costs; but nothing could be

done with regard to the linters, except to recommend that the War Industries Board increase the price thereon, to make this product help bear the burden. The refiners agreed with the Food Administration to buy cottonseed oil at 17½ cents f. o. b. the mills, the Food Administration agreeing to assist the refiners in maintaining this price. In their turn the manufacturers of lard compound, with the sanction of the Food Administration, agreed to a price of 22½ cents per pound. The net result of this interrelated chain of price fixings was that the price of cottonseed meal was made from $50 to $75 per ton, depending upon the protein content,—a small advance of approximately $3 over the price of the preceding year. The Food Administration regretted the necessity of increasing the price of meal, but it had to be done in order to maintain the price of oil.

Early in 1919, doubt arose as to the continued participation of the Food Administration in this stabilization plan and also the importation of foreign oils, which sold below cottonseed oil, continued. Then, too, there were some local accumulations of cottonseed and cottonseed oil. Therefore, in February, a meeting was called, at which representatives of all the stages agreed to maintain the plan, and the Food Administration promised to do what it could to that end. An embargo on the importation of foreign oils was recommended to the War Trade Board, and steps were taken to insure the use of the domestic product in the manufacture of lard substitutes, the refiners promising to help in this and the Food Administration to require the domestic product on orders which were allocated through it.

Thus, in this case the price-fixing agency had to deal with a very complicated situation, on account of the interrelation of numerous products; and, partly for the purpose of keeping meat prices down, it sought to keep meal prices down by keeping the prices of linters and oil up. Incidentally the plan involved a stabilization of the whole industry, with the idea of maintaining the supply and of keeping products moving forward in the normal quantity and relation.

Another illustration of the complex interrelation between products and the resulting difficulties which confronted price fixing is furnished by the hen and the egg. The live hen is,

as it were, the raw material for the two products, eggs and chicken meat. The Food Administration fixed the price of eggs so low, relatively to the price of chicken feed, that the egg business became unprofitable, and hens were killed in large numbers. This case illustrates the need of regulating the earlier stages of a non-integrated industry.

In the case of substitutes, the problem of the price fixers was chiefly one of demand, not directly of cost. For example, the cost of a substitute might necessarily be ignored, as was practically true of Virginia-Carolina pine. The price of southern yellow pine having been fixed, the other pine could not stand in the market more than a certain fixed differential, and its price had to be set at a figure which was below the cost of a large part of the production. It was in the face of such complicated problems as this that the Food Administration made some of its chief errors, notably in not regulating the prices of various grains which were obviously, either directly or indirectly, substitutes for wheat.

The foregoing discussion of the problems of price fixing on the demand side illustrates the impossibility of basing prices entirely on cost. It was often necessary to make some allowance for demand and sometimes to make so great an allowance as to deprive cost of any appreciable significance as a factor in price fixing.

Sometimes, in fact, the cost was not known, perhaps because of haste or because of difficulty in securing satisfactory data. In this event the attempt was sometimes made to find some basis in cost, which might be accomplished by adding a known *increase* in cost to the old price, as was done in determining cotton-compress rates. Also, in September, 1918, an addition was made to the price of crushing cottonseed, presumably sufficient to cover increase in cost. A point of difference in these two cases, however, lies in the fact that the base price of crushing cottonseed had been previously determined by a governmental agency, while this was not the case with compressing cotton. About the middle of 1918, the price of copper was suddenly advanced by an amount estimated to equal the increase in freight rates and wages which became effective at that

time. In a few extreme cases, however, there was not even a pretense of proceeding on a cost basis. The first price for bituminous coal in 1917 was made on the basis of the past prices as furnished by the *Geological Survey*. Platinum and iridium had their prices fixed at the high levels prevailing in the market; and the Emergency Fleet Corporation's price for ship timbers appears to have been arrived at on the basis of previous prices. In the case of hogs a sliding-scale price was decided upon which varied with the price of corn according to a fixed ratio between quantity of corn and weight of hogs.[1]

Another class of cases which required that the emphasis should be laid on the demand side consisted of those products in which allowance had to be made for difference in quality or grade. Douglas-fir logs, for example, were allowed differential prices according to length; regardless of the cost, logs over 40 feet long were priced according to the usual custom of the trade. Also, in the case of lumber the different prices placed on the different grades of boards bore little, if any, relation to cost.

To sum up: While prices were generally fixed on the basis of cost, there were necessarily many exceptions. Sometimes no costs were available. Sometimes cost was only partly available as a basis, as in the case of "joint products" and of products for which complete cost data did not exist. Sometimes, again, no effort was made to use cost, as in the case of substitutes whose prices were fixed on the basis of the commodity in the place of which they might be used. In a few instances the price was fixed without regard to cost, merely on the basis of preëxisting prices, such prices being taken for what was presumably a normal period.

Undoubtedly one limitation on price fixing on a cost basis lies in the difficulty of allowing for demand or quality. Under the Lever Act, for instance, prices for coal were based on cost, not on quality. And the Fuel Administration called attention to the fact that, for this reason, in returning to a peace basis there would necessarily have to be a readjustment.

[1] The price of corn was not formally or publicly fixed.

5. *Value of Materials vs. Cost*

The foregoing distinctions between cost and demand as bases for price fixing suggest another phase of this great problem. Whenever the question arose as to whether materials used in the manufacture of a given product should be taken into cost on the basis of their market value or the cost to produce them, a difference of opinion manifested itself. A notable illustration of this occurred in fixing the price of lumber. The lumber manufacturers insisted that their stumpage should be considered at its market value, which reflected the high war prices of lumber, while the Federal Trade Commission, in reporting costs to the Price Fixing Committee, endeavored to ascertain the actual cost to the lumber manufacturers of this raw material.

In order to understand this point it is necessary to bear in mind that the problem of the price-fixing agency is not merely to decide upon the reasonable price but also to insure that its decision will be observed. Its problem is made easier when the raw material involved in the production of any given commodity is consumed by the producers at a uniform valuation, as this appears to make greater uniformity in cost. Naturally, too, it is easier to satisfy those in the industry when they are allowed to retain profits made on stocks of materials purchased during periods of advancing prices. The significance of these points is increased by the fact that those engaged in determining the price fixing were often business men whose point of view seems to have been naturally sympathetic toward the easier and more "liberal" course.

In the case of lumber, a sort of compromise was at first adopted, in that the charge made to cost for stumpage was somewhat greater than the actual cost of the stumpage to the lumber companies and somewhat less than the current market value. More or less consciously the policy was adopted in this case of charging the raw material in on the basis of its pre-war value, the idea being that the owners were entitled to appreciation in value which had accrued prior to the time that prices became subject to regulation. When, however, the Food Administration fixed the margins of dealers in cottonseed, it was stipulated that the margin was to be based on cost of material

and not replacement value. Nevertheless, this same Food Administration through its Sugar Equalization Board adopted the extreme application of the value basis. In August, 1918, it was announced that the Sugar Equalization Board was to buy all sugar held by the refiners at the old crop price and to sell it back to the same refiners at the new price, thus equalizing costs and profits. The gain by the transaction was to be absorbed by the Board, the government thus taking a speculative profit that would otherwise have gone to the refiners. This action may have been taken entirely on grounds of expediency connected with price fixing, but it is not improbable that the price of sugar was made somewhat higher as a result.[1] As time went on, disputes arose between representatives of the lumber industry and the government concerning the stumpage figure, and, both in this case and in the case of copper, the question was finally settled by making no charge for the raw material in cost but throwing it into the allowance for interest and profits. This was another compromise measure; but it was one which, on the whole, worked in the interest of the government and toward a correct solution of the problem. Under this arrangement it was possible to compute exact operating costs without any allowance for "depletion" of timber or ore, just as costs had commonly been computed in the industry in normal times. Then the same margin could be added to the cost which had been obtained in normal times. This margin might be called the "net back to stumpage" or the "net back to ore in place" and included three items: (1) replacement for depletion of raw materials; (2) interest on invested capital; (3) profits of enterprise.

As a matter of fact there are two rather clearly defined cases to be distinguished: One exists when a manufacturer buys his raw materials; the other when he secures his raw materials from sources which he owns. When he buys his materials at market rates, the market price is actual cost to him. Moreover, he assumes a risk of fluctuation in market price which is

[1] Not higher than it would have been without regulation. There can be little doubt that the activity of the Food Administration saved the sugar consumers of the United States millions of dollars, but more might have been saved.

necessary, for he is buying to meet his *current* needs. On the other hand, when the manufacturer produces his own material, directly or indirectly, the market price generally is not his actual cost and may include a large element of profit to him. (1) In fact, any *value* which he may put upon the materials, other than their actual cost value, is entirely hypothetical. There has been no *bona fide* sale. (2) The market value would be estimated on the basis of the high price of the finished product which is in question. (3) Moreover, the source of the materials may be assumed to be sufficient to supply the needs of the manufacturer for a long period and may be called a funded source. To allow the manufacturer to charge the materials at market value, when that is in excess of cost, would be to "write up" or appreciate the value of a fixed asset and might lead to the vesting of such a valuation, which would tend to increase price and the profits of the manufacturer. (4) Finally, it is practically certain that few, if any, manufacturers would allow the rule to work both ways; for they would not care to charge their materials into cost at less than the actual cost to produce them even if the market price should fall so low.

The writer's conclusion is that the market value of materials may, without error, be charged into cost when such value is actually in continual process of becoming the cost of the manufacturer. Thus, a cotton spinner must buy his supplies of cotton, and the price he pays represents cost to him, even though the price subsequently rises, and his materials inventory, therefore, increases in value. Sound price-fixing policy dictates that the current or anticipated cotton market be made the basis to which the manufacturer's conversion and selling costs will be added. On the other hand, when the manufacturer does not *bona fide* buy his materials but produces them directly or indirectly, the cost of production should be the basis, for value would not in this case equal cost, but cost plus profit. Naturally, if raw material is taken into cost at its market value, any investment in the supply thereof must be deducted from the total "investment" used as a basis of "return" above cost. Otherwise the producer is given interest and profit twice.

The different degrees of integration existing in an industry have caused much confusion in the thought of those engaged in fixing prices.[1] But, to the writer's way of thinking, the question is merely one of competition between different kinds of business organization, each regarded as a competing unit. Whether a concern actually buys its raw materials or not, it is attempting to compete with all other concerns which make the same product, even though these other concerns own their raw material. If some companies buy their raw materials, while others produce their raw materials, the price on the given product must either be high enough to cover the cost of those who buy, or not. If the price is high enough, those who buy their materials are allowed to exist; if it is not high enough, they must either secure the advantages possessed by their competitors or go out of business. To take any other point of view would be to regard integrated concerns as disintegrated, in that their costs and profits would be regarded as split into as many stages as might be occupied by independent business units. It would, for example, treat the lumber manufacturer as though he were engaged in two separate and, perhaps, conflicting businesses: (1) that of a speculator in timber; and (2) that of a manufacturer of lumber.

In any event the non-integrated manufacturing company has a smaller investment per unit of finished product and should require a correspondingly smaller margin over cost to yield a given percentage of return to capital.

6. *Investment and Return on Investment*

Perhaps the chief difficulty of the price fixer in most cases concerned the allowance of fair return on investment. The first question which confronted him on this score was, what is the true investment? Here we again meet our old friend "cost *vs.* value". This phase of the matter was never satisfactorily dealt with by any price-fixing agency during the war. The Federal Trade Commission in connection with its cost findings frequently reported to the Price Fixing Committee of the War

[1] See above, pp. 33-34.

Industries Board a figure representing the investment, but time did not permit the careful investigation that would have been necessary to ascertain the actual money invested, nor was the attitude of the price-fixing agency, as a rule, one which favored the strict construction of "investment". Indeed, this is but a larger aspect of the point already touched upon in connection with the depletion of mineral and timber lands. In general, it may be said that in a majority of the price-fixing operations of the War Industries Board, some consideration was given to the estimated investment and that in such cases the figure used was one which lay somewhere between the book value claimed by the companies concerned and the actual net investment made. This resulted from the fact that the investment was estimated in most cases by deducting from the sum of the stock, funded debt and surplus, any "outside" investments, good-will and reserves for items covered in cost.[1] On the other hand, a majority of the price-fixing operations of such agencies as the Food Administration appear to have been made on the basis of a margin (interest and profits) per unit of product, determined upon with reference to past experience. Of course, exceptions exist to these statements.

In cases in which the investment played an essential part, numerous questions arose, only two of which will be here referred to. First, should the average investment be taken or should a marginal investment be used? The prevailing practice appears to have been to use an average investment, though, in fact, the figures used were generally so liberal as virtually to constitute marginal figures. The use of the average investment is warranted on the assumption that it approximates the investment necessary to produce efficiently a unit of the product concerned. Inefficient or unwise investments are not entitled to the same rate of return as those which are economically justified. Some companies hold enormous supplies of raw material for speculative purposes; others have made investments which are too large, bringing their plants upon a basis which experi-

[1] *E. g.*, "Reserve for depreciation". The depreciation having been allowed in cost, and the price based on cost, no further allowance is necessary.

ence has shown to be uneconomical. If the large investment does not result in a lower unit cost of production, the company of large investment must, under competition, take the results of a mistaken policy and accept a lower rate of return. The only fair price-fixing policy in this regard would appear to be one of ascertaining the investment necessary for the reasonably efficient operation of a plant for the purpose of making money.

Sometimes a rate of investment per unit of product is generally recognized in an industry, and such rates are sometimes used by banking firms as a basis of extending credit. Thus, in the cement industry most engineers would admit that before the war from $1.50 to $2.00 was sufficient investment per barrel of annual output; in the sulphuric acid industry, from $25.00 to $27.50 per ton should have been adequate; and in the newsprint paper industry, it appears to have been generally agreed that the reasonably efficient plant in the United States should not have an investment in excess of $25.00 per ton of daily capacity. Such figures represent a kind of average. The Federal Trade Commission in most cases found it feasible to ascertain the fair average investment per unit of output.

Aside from the problems involved in ascertaining the true total net investment, the chief difficulties lay in the variations between capacity and actual output and in the necessity of sometimes distributing the investment among several different products.

The second question concerning investment which will be specially referred to is that arising out of special war construction. In not a few cases plants were built and mines opened up, which it was known would be of little or no value at the end of the war. On the whole, no clear policy appears to have been outlined by the price-fixing agencies with regard to the amortization of such investments. It is probable that in many cases a general allowance was made in the shape of a specially high price, with the feeling that the company concerned could take care of its investment out of the large margin which it would make. Such provision, however, is not business-like and may prove quite vicious. The correct policy would have been to allow the honest and efficient investments made specially for

war purposes to be written off during the probable period of the war, down to their scrap or alternative-use value. Of course, the original investment in such cases should be valued at cost.

The next question which confronted the price-fixing agency was, what return shall be allowed upon the investment? In case the investment was a known quantity, this question reduced itself to a question of percentage. In case, however, the investment was not known, some provision had to be made in the shape of a margin above cost to be allowed per unit of product sold. In either case, the price was generally made sufficient to allow a margin over the marginal cost, which would allow not only interest on the average investment, but a fair rate of profits to the enterprise. In attempting to reach such a margin, the price fixers could, and did, consider many things, among which may be mentioned the past margin and percentage on investment received in the industry under consideration; the percentage of margin on sales taken together with the rate of "turnover"; the risk involved; the need of stimulating production; the whole situation as to the range of costs,—as to whether the price under consideration would result in enormous profits to supra-marginal producers, or whether it would put out of business too large a portion of high-cost producers.

In so far as the Price Fixing Committee of the War Industries Board is concerned, the practice developed in cases in which the data were available of taking 10 per cent. on the average investment as being a sufficient allowance above *marginal* cost to cover interest and profits. No doubt, questions were raised as to whether it was necessary to make any allowance at all over marginal cost in addition to interest—say at 5 per cent.; but it is to be remembered that the prices fixed were generally maximum prices, and that with advancing costs and war conditions it was not deemed wise to shave too closely.

In merchandising businesses the investment has little significance for price-fixing purposes. A broker, for example, may do a million dollars worth of business with a very small amount of capital, the chief factor in his business being his personal exertion and shrewdness.

In abnormal periods of advancing costs and prices it may be

well to consider the results carefully before attempting to fix prices by limiting margins to any certain percentage either on cost or on sales value. And the Food Administration probably did well in fixing a flat margin per barrel on flour. Nevertheless, the 25 cents per barrel allowed in this case was too large and the actual margins earned were much greater than those probably anticipated.[1]

A point which caused much misunderstanding and ill feeling was the relation of previous lean years to the margin of profit to be allowed by the price-fixing agency. Ordinarily, under competition, lean years and fat years offset one another, and the losses of the one are borne for the sake of the gains of the other. Not unnaturally, therefore, the representatives of the lumber and other industries urged that inasmuch as they suffered as a result of the European War, they should be treated liberally in the price fixing. To such arguments, however, the Price-Fixing Committee turned a deaf ear, their reply being that this government was not responsible for the war and could not undertake to insure industry against loss. The committee attached considerable weight to the rate of profits made during the years prior to the war. Clearly this stand was wise. No proof could be furnished that 1917 or 1918 were ordained to be fat years. Rather it would seem that our entrance into the war, like the proverbial "act of God", brought about an interruption in the normal course of events and postponed for a season the coming of the usual fat years.

7. *The Problem of more than One Price for the same Product; and Pooling*

One of the practical difficulties with which the government price fixers had to deal was the problem of buying from individual companies at individually determined prices. The Railway Administration would undoubtedly have been able to effect great economies by purchasing coal from companies whose low costs would enable them to sell more cheaply than the price

[1] As a matter of fact, on account of taxes and penalties, neither the anticipated nor the actual margins could be known.

fixed for the public. There is evidence that it desired to do so but was restrained by the Fuel Administration's anxiety to maintain the market,—and with it, wages.

If prices were fixed merely on goods purchased for government account, and if the government purchase was a relatively small part of the total output of the industry, it was common to fix a different individual price on the output of each company. Under commandeer orders, and in a few other cases, the prices were fixed on the basis of individual costs or of fixing different costs for small groups of producers. This was the case with common brick, and later, at least, with sulphuric acid.

When, however, the purchases for the government were the dominant factor in the market, as in the case of copper, the tendency was to fix a single price on the basis of marginal cost. Here practically the entire business of the companies was concerned, and, accordingly, the total profit arising from superior efficiency was at stake. Various schemes were proposed for granting special prices to high-cost copper producers or for pooling the production but were not adopted.

When a price to the public was involved, the problem was somewhat like that which confronted the government as the sole buyer, and sound price-fixing policy seemed to be to approximate what would take place in a competitive market. This meant a single price with differential profits to supramarginal producers. Indeed, the possibility of making separate prices for the same kind of product, coming from different concerns, was limited by competitive and market conditions, as in the case of Michigan cement and Virginia-Carolina lumber.

A pooling system was strongly urged in the case of steel rails, coal, and—in a modified form—of copper. It was not adopted, because pooling would have involved the organization of considerable machinery for administration as well as considerable risk through the accumulation of stocks. In any case, too, the plan would have necessitated not only the careful ascertainment of the cost and the investment of each producer but the fixing of a separate price for each, which would have multiplied the work of price fixing. The trouble experienced

by the Food Administration in attempting to regulate flour prices on a cost-plus-profit basis illustrates this difficulty.

Pooling, however, was undertaken in several cases in which the object was not so much to equalize profits as to ration or to control the distribution of the product. This was true of raw sugar, wool and tin; and the guarantee of a minimum price for wheat constituted a potential pooling arrangement. In these cases, the producers were paid the same price and allowed to retain any differential profits resulting therefrom, the government merely undertaking to supply the needs of the country at reasonable prices. Nevertheless, while in these cases the price fixing was not complicated by dealing separately with each producer, the administration was difficult, and above all the government was financially involved in an unfortunate mistake, *e. g.*, in wheat, tin and wool.

III [1]

1. *Chief Purposes in Price Fixing*

PRICE fixing in the United States was almost entirely the product of war conditions. In general, there were three chief purposes in fixing prices: (1) to secure production of needed commodities; (2) to prevent social unrest by checking profiteering, coördinating food prices and wages and stabilizing industrial conditions; (3) to assure government economy, both in buying munitions and in a fiscal sense.

In order to appraise the measure of success and the results of the price-fixing program, it is desirable to present a more detailed statement of the purposes of the price fixers. The control of output may be regarded as the first of these purposes. This may have been the result of a desire either to stimulate the production of war necessities or to check the production of

[1] Supplementing the first installment of this article, published in the March issue of the POLITICAL SCIENCE QUARTERLY, the following facts, which have come to the writer's attention, are worthy of presentation:

(1) The price of silver was fixed by Congressional act of April 28, 1918, which, in dealing with monetary problems, provided for the stabilization of the prices and the encouragement of the production of silver. The act provided for the melting of 350,000,000 silver dollars and the sale of the bullion at $1.00 per fine ounce, and for the purchase of an equivalent quantity of silver from the mines and reduction works of the United States at $1.00 per ounce. As a result the price rose to approximately $1.00. This amounted to an indirect fixing of a minimum price.

(2) The Food Administration, about February, 1918, fixed a price of 9¢ per pound for arsenic. This was done by agreement with the producers, who stated that the price would yield a fair profit. The price of arsenic had risen from 4¢ before the war to 15¢ in February, 1918.

(3) The price of ferro-manganese was fixed for the 70% grade by informal agreement at $250 delivered.

(4) The prices of several chemicals were "fixed", chiefly for government purchase, among them being the following: Carbon tetrachloride, liquid chlorine gas (7½¢), phenol (28¢ per lb.), picric acid, and formaldehyde (16¼¢ lb.).

(5) The price of toluol was fixed at $1.50–1.55 per gal.

(6) The War Industry Board, in June, 1918, announced to the naval stores industries that the advance in prices of rosin and turpentine would have to cease.

(7) The Council of National Defense, in May, 1917, by agreement with the leading packers, "pegged" the price of hides for government requirements at the existing market rate.

unessential commodities. Its immediate expression, however, was found in the attitude toward profits. On the one hand, the price fixers sought to keep profits up in order to stimulate production, as in the case of timbers, iron, steel and crude oil. On the other hand, they sometimes sought to keep profits down in order to prevent the undue expansion of luxuries.

The prevention of profiteering was a second purpose, back of which lay the desire to allay social unrest. This found expression in such regulation as that of wool prices, the excessive advance of which was due to speculation in a market that was hysterical and artificial.

A third purpose was to control wages. In some cases, where the object was to keep wages up, this found expression in a number of price-fixing agreements, as in the case of copper and coal, which contained clauses providing that no reduction in wages should be made. It will be remembered that a labor representative was a member of the Price-Fixing Committee, and wage questions were in some cases brought before the committee as a factor in the price situation. The wages which it was desired to maintain were "real wages". In fact, a distinct purpose may be said to lie in the desire to keep "money wages" down. Mr. Hoover stated before a Harvard University audience that our entrance into the war had raised the question of controlling our food so as to reduce prices, "for", he said, "unless we can do so, we must meet a raise of wages with all its vicious circle of social disruption". Mr. Hoover is reported to have said also that "the high cost of living must stop, or we must have a continuous ascending wage scale; a continuous increase in wages usually undermines national efficiency". While these two purposes with regard to wages may be, in part, harmonized, it must be concluded that they are, in part, conflicting.

Another distinct purpose was to improve the government's financial situation. This purpose again may be divided into two: (1) to keep government borrowing and taxation down (a) by reducing profits made by producers and (b) by preventing inflation in prices, thus reducing the government's expenditure; and (2) by increasing the source of taxation from in-

comes and excess profits. Here again a conflict will be noticed. Taxes might be increased by increasing profits; but if profits should be increased, the price which the government, as a purchaser, would have to pay, would also be increased.

Perhaps a distinct class of cases may be recognized, in which the motive was to "stabilize" the market. On the whole, the cases of so-called stabilization were closely akin to those in which the object was to "stimulate" production, as they were directed partly toward helping the industry concerned or toward preventing a decrease in values when the government had become the holder of a stock of goods through some pooling arrangement or otherwise. Thus the price of hollow building tile was fixed, and orders were distributed, partly with the idea of keeping the plants alive; and the stabilization idea was also applied to the cement industry. This did not necessarily mean high prices, for hollow building tile in the commercial market brought from two to four dollars per ton more than the government price. "Stabilization" in different cases and in different proportions involved: (1) the equalization of prices between different territories (*e.g.*, cement), different products (*e. g.*, cottonseed products) and different producers (*e. g.*, mid-continent crude oil); (2) the prevention of considerable change in price, up or down, (*e.g.*, wheat and silver); and (3) the prevention of decreases in prices, either generally or in particular cases (*e.g.*, hogs).

The idea of allaying social unrest appears in the purposes of keeping "real wages" up, preventing profiteering and reducing government expenses.

From another point of view, the whole price-regulating mechanism was a part of the necessary machinery for the distribution of those necessaries which had become so scarce as to be insufficient to gratify the usual wants of the nation. This can be illustrated by sugar and sulphur. In other words, prices were regulated in order to have some fair valuation take the place of normal, competitive conditions which had been lost for one reason or another. This is the strongest way to put the case in favor of price fixing. In some instances, the government had to buy practically the entire available supply, as was the

case with copper. Wherever unified buying on a large scale was necessary, price fixing was called for, since such unified buying virtually amounted to commandeering. Certainly when there is no competition among buyers an abnormal condition exists. Moreover, in some cases, the existence of sellers' monopolies was recognized, and partly on this ground the price of sulphur, nickel and aluminum was regulated. When the market was so affected by panic and speculation as to be highly abnormal, this same result followed. An interesting case is furnished by the wool market in 1917 and 1918. There was no shortage in the supply of wool, and consumption in 1918 was little, if at all, greater, than in 1917. Nevertheless, there was an extraordinary advance in price, due to ignorance and to speculative conditions; and abnormal stocks, of both wool and cloth, were carried by the manufacturers. Under such circumstances price fixing was perhaps needed.

The relation between price fixing and control over the conditions of demand and supply is close and important. If prices are fixed, it may be necessary to control the demand or the supply or both. A low price on sulphur would have invited non-essential uses. The high guaranteed price on tin required a limit of importation. On the other hand, if either demand or supply or both are controlled, it may be necessary to fix prices. For example, the price of rubber was fixed as an incident to a control over shipping and imports. When the government took all of the product, like platinum, or restricted output or controlled priorities, it was natural also to fix the price. It is interesting to note that no appreciable traces can be found of a purpose to control the consumption or demand through price regulation. Prices were not made high to check consumption, nor were they made low to increase the volume of business and thus decrease cost of production. Apparently, as to the reaction of price on industry, prices were fixed with regard to production and supply and were not used as they might have been, as a dynamic factor in the molding of individual demand curves.

2. *Results Obtained from the Price-Fixing Program*

The stimulation of production was one of the chief purposes in fixing prices. And this purpose was frequently realized. Ship timbers were secured in great quantities; manganese ore was developed in a way that would have seemed impossible a few years before; and supplies of quicksilver, copper, steel and crude oil sprang from the ground as if by magic. The magic was the lure of high profits which resulted from high prices. Indeed, it was relatively easy for the government to get results when the object was to stimulate production by high prices, and the greatest measure of success was secured in this way.

The somewhat conflicting object of securing lower prices in order to prevent social unrest, profiteering *etc.*, was not so easy to attain. Some substantial reductions were obtained, however, notably on wool, sugar, sulphuric acid and coal, all of which are important products from the point of view both of war munitions and of civilian cost of living. The price of flour, too, while higher than necessary, was by regulation made appreciably lower than it otherwise would have been. In the case of sugar, during 1916–17, and before government regulation, the price had risen greatly and beyond any justification by increased cost. The Tariff Commission found that the average proportion of the total output of sugar, which was produced at a profit, was about 87 per cent. In 1916–17, however, the figure had increased to 99 per cent. Then came price regulation, and the Commission found that the total output protected from loss by the Food Administration price was reduced to a little over 89 per cent. This was in spite of the fact that the same forces were at work in 1917–18 as had caused the rise in 1916–17. Although the Tariff Commission's figures are not entirely conclusive, for the reason that there may have been a larger number of inefficient high-cost producers in the business in 1917–18 than in the previous year, and that the companies in the two years were not identical, it seems fair, nevertheless, to conclude that considerable results in the way of checking profiteering were secured in this case.

On the whole, it is our well-considered opinion that profiteering, while it existed in 1918, was appreciably less excessive

than in 1917,—a year of extraordinary profits.[1] In part, this fact was due to increased costs and to adjustments in production and consumption; but in part—in the basic, controlled industries—it was due to price regulation. The fixing of prices did not prevent or abolish profiteering; it somewhat moderated the evil.

As to the reduction of the output of unessential products, we know of no case in which this was effectively accomplished by price regulation. Through control of priorities and the lure of cost-plus contracts in other fields the end was attained but not by reducing prices.

There can be little doubt that price fixing helped to raise wages and to keep them up. Indeed, great anxiety was displayed by the government lest wages might be reduced. The insidious cost-plus plan caused the rapid bidding-up of labor, and prices and rates were adjusted to the new wage levels. This sanctioned high wages. We have been unable to find any cases in which money wages were reduced or kept down.

It would be hard to say how important a part the desire to stabilize industrial conditions played in the fixing of prices, but it is certain that this was one of the beneficial results. In a period like that which attended the declaration of war by the United States, there are apt to be extreme reactions in the

[1] The following statement, compiled from Sen. Doc. No. 248, 65 Cong., 2 Sess., is believed to be fairly representative of the percentage of net earnings to investment:

Year	U. S. Steel Co.	48 Lumber Cos.	106 Oil Cos.	21 Copper Cos.	20 Bituminous Coal Cos.	"Big 5" Meat Packers
1913	—	—	—	11.7%	—	6.2– 7.3%[c]
1914	2.8%	—	15%[a]	—	—	— —
1915	5.2%	—	—	—	—	— —
1916	15.6%	5.2%	—	—	20¢[b]	— —
1917	24.9%	17.0%	21%[a]	24.4%	90¢[b]	16.8–26.7%

[a]—approximate.

[b]—margin per ton.

[c]—Average for 1912–1914.

market, accompanied by all degrees of panic and speculation. The fixing of maximum prices may prevent extreme advances and thus avoid such violent reactions as took place in the common zinc industry. In this industry it was found that in the latter part of 1917, no price regulation was required, for the reason that the market price was less than the cost of production, a condition that was the direct result of the extremely high prices which had prevailed a few months previously. The high prices had stimulated production to such an extent that the capacity was in excess of the quantity demanded, and extreme depression followed. When times are more normal, it may be satisfactory to allow price changes to work out adjustments between quantity demanded and output; but in such conditions as existed during the war, it is our opinion that the fixing of maximum prices, if wisely done, is beneficial. It seems clear that this conclusion is illustrated by the case of grade A zinc. Had the price not been fixed, there can be no question but that there would have been a rush to increase the output, with results which would have been similar in kind to those which occurred in the case of common spelter. We know of several companies which were considering going into the field but were deterred by the fact that a maximum price was fixed. Much the same may be said of zinc sheets and plates and of sulphuric acid. The lumber industry also would undoubtedly have undergone a condition of severe depression, had prices been allowed to take the course which the more short-sighted representatives of the industry desired them to take.

Of course, the foregoing applies only to those cases in which the prices would have gone higher than the maximum fixed. It is undoubtedly true that in a few cases, at least, the fixing of a maximum price became the means by which prices were maintained at or near the maximum, which would otherwise have remained at lower levels, or at least, would have done so if effective competition had existed. In our opinion, this is true at least of crude petroleum and certain canned vegetables. Moreover, toward the close of the price-fixing period, the Price-Fixing Committee authorized copper producers to maintain a

price of 26 cents,—if they could,—a fact which probably served to delay somewhat the subsequent drop.

Closely connected with the foregoing results was the moderation of social unrest, which the price-fixing program insured. While it is impossible to measure such a result, there can be no reasonable doubt that the very fact that "something was being done" tended to allay the discontent and suspicion which advances in prices and rumors of profiteering had caused to spring up in the public mind, and the real achievement made in moderating price advances in the case of such commodities as sugar, wool and coal, at least tended to offset the effect of apparently unchecked increases in the prices of cotton, shoes and meats. It may also be surmised that the degree of stabilization insured by the price-fixing program was an important factor in this regard.

The foregoing results were, on the whole, direct, tangible and good. Certain other good results were tangible but incidental. For example, appreciable economies were secured in the distribution of several important commodities, notably coal. By a system of zoning, unnecessary transportation was avoided. Moreover, in the operation of railways much of the wastes through competition in service were eliminated, although it seems probable that at the same time the service deteriorated. Production was made more economical in several industries, as is illustrated by the saving of waste in threshing wheat and by the adoption of devices for recovering potash from the process of making Portland cement.

One of the chief incidental advantages was the introduction of cost-accounting methods in numerous industries. When it became necessary to base prices or profits upon an exact knowledge of the cost of production, the much vaunted efficiency of American business was frequently put in a bad light. The Federal Trade Commission found that in few industries was it possible to ascertain exact costs, except by long and difficult labor. The lumber industry furnishes a good example of one which took advantage of the situation to encourage the introduction of cost-accounting methods. To the extent that American business men were induced to ascertain their costs more efficiently by the war, a notably good result was secured.

Certain intangible advantages may be mentioned here, although it is impossible to measure them. Among the chief of these was the introduction of a spirit of practical patriotism. The business men of the nation were forced to partake in what may be called "social team work", and at least to act as though they were taking a social point of view. Common dangers, common wants, common regulations, inducing common action, were bound to bear fruit. This found expression in the regulations adopted by the various administrative bodies at Washington, such as zone prices and distribution, the stimulation of production according to needs, the checking of production of things not necessary (*e. g.*, alcohol), the recognition of the principle of a "living wage", the prevention of speculation, hoarding, undesirable reselling *etc.* and the equalization of supply (*e. g.*, sugar). To the extent that the adoption of these measures resulted in a real education of those affected, great permanent good was accomplished.

It must be observed, however, that the regulations just referred to were sometimes warped by the acts of the officials who enforced them and were not infrequently evaded. Moreover, they were to some extent offset by the stimulus given to organizations for private gain. One of the most notable results of war-time conditions, which was encouraged by price regulation, was the rapid growth of labor organizations, farmers' organizations and business associations. However desirable these may have been for some purposes, it would have been better if they had had a more normal growth. Under war conditions, too, the trade associations were able to go to great lengths in restricting competition and controlling prices. The result of this has been the establishment of a gild-like organization of industry which may utterly change the competitive system. Hardly an industry of any importance can be named in which an association was not either created or strengthened as a result of the price-fixing activities of the government, and in bargaining with the price-fixing agencies selfish interests were frequently aroused and made effective. By inducing clashes between the interests of particular industries and those of the government, forces tending toward social solidarity were, in part, counteracted.

Moreover, several infant industries were created with the result that selfish interests were called into play. The war stimulated such industries as those concerned with manganese, chrome, magnesite, tungsten and potash, some of which are now insisting upon protection by the government. The attitude of wheat and cotton farmers, too, has not been an entirely healthy one.

These forces tending to counteract social solidarity suggest some of the bad results of price regulation. Probably first among these should be mentioned the perversion of the forces which determine the margin of production, with the result that the weeding-out process in industry was seriously retarded. In several important industries the marginal cost, upon which the price was based, was the cost of an inefficient concern; and prices were fixed so high that concerns which under normal conditions, could not have survived competition, were encouraged. Moreover, the unnecessary utilization of inferior supplies of raw materials and inefficient means of production, was made possible. In the copper and lumber industries, not only were high-cost mines and mills protected, but they were enabled to take advantage of the situation by exploiting low-grade ores and inferior tracts of timber. And cases were not rare in which companies resorted to inferior sources of supply in order to show high costs. At best, price fixing tends to take costs for granted and to prevent that struggle for survival among different methods and sources of supply which is so important in leading to efficiency in production. A more perfect price-regulating mechanism might have minimized this tendency, but to some extent it is an evil inherent in any price regulation.

Another bad result of price fixing was over-capitalization. This would necessarily have attended the advance in prices caused by inflation. The point, however, is that by fixing prices under such conditions, there was a tendency to recognize and perpetuate over-capitalization, a tendency further encouraged by rulings of the Treasury Department which recognized appreciated values set up for such assets as ore and timber. In our judgment, when the volume of the circulating medium or the value of the standard money unit comes to be reduced,

this evil result of price fixing, by making readjustment difficult, will be apt to cause an industrial strain and perhaps even a severe crisis.

In some cases, price fixing resulted in such lack of economy that the average price paid by the government was probably higher than would otherwise have been the case. The adoption of the "cost-plus" idea, by eliminating risk from the producers' calculations, promoted inefficiency. Unnecessarily high wages made for labor inefficiency. Price fixing was used to sanction non-competitive prices at higher levels than conditions of demand and supply would have warranted. The manufacturers of cement, for instance, came before the Price-Fixing Committee with extravagant claims based on cost figures. Nor were they the only ones. In such cases the tendency was to "split the difference". It was common for associations and committees representing them to line up in demanding a certain price and then to maintain the price sanctioned by the price-fixing agencies.

It is probable that discriminations were involuntarily made among different industries. Indeed, it would be strange if there had not been some results of this sort, for no body of men can be sufficiently wise and well informed to prevent their holding some prices down to lower levels than others, especially in the face of the operation of a general force like that of inflation.

Of course, evasion of price-fixing regulations reduced somewhat both the good and the evil results. Professor Warren, of Cornell University, who has studied the price fixing of grain and grain products, maintains that such regulation was ineffective in many cases and that by combination sales and by mixing with other feeds, a price higher than that fixed was often charged. Certainly the control of flour prices by the Food Administration through the regulation of margins, was partly ineffective; and the provision for limiting the profits of the big meat packers to 9 per cent. proved entirely futile, their profits being over 20 per cent. on investment in 1917 and a similar percentage in 1918. On other commodities, sales were made to individuals, who falsely claimed to be government contractors, and frequently when the price was fixed for the govern-

ment only, a virtual evasion was accomplished through sales at the unregulated public prices to persons who were indirectly producing for the government.

At the end of the war, it became apparent that in not a few important cases prices had been fixed at levels which were higher than was necessary. It is a striking fact that in the arguments published by the Industrial Board, Mr. Redfield sanctioned the conclusion that prices during the war had been, on the whole, "fixed" at too high a level. Certainly this opinion was heartily agreed to by the Railway Administration—at least in the case of steel products. It became apparent that costs and scarcity had both been exaggerated, while on the other hand, over-zealous or over-cautious government officials had made unnecessarily large purchases. There was much concern in some quarters about a probable drop in prices, and steps were taken to prevent it. The Copper Producers' Committee appeared at Washington and asked for protection. The Iron and Steel Institute requested a continuation of price regulation. In fact, on November 15, 1918, an agreement was made between the copper producers and the War Industries Board, which amounted to saying that the government would continue to pay 26 cents per pound for the copper for which it had contracted, and that it would sanction the continuation of the prevailing understanding among the producers, according to which they might concertedly demand 26 cents per pound.

Other illustrations of the situation may be mentioned as follows: In November, the committee on cotton distribution ordered that there should be no short selling in the cotton exchanges at New York and New Orleans. In December, the War Department announced that army stocks of materials would be sold gradually, so as not to break the market. Early in 1919, it became apparent not only that there had been no scarcity of tin in the United States when the Inter-Allied Tin Control became effective, but that there was a large surplus. The manganese ore price proved to be so high that the market became over-stocked in the latter part of 1918, and buyers refused to consider offerings at the established prices. As has been pointed out in an earlier article of this series, it proved

difficult to keep up the prices on various cottonseed oil products. Partly as a result of the open winter of 1917–18, it was found that in the fall of 1918 there was a surplus of coal, and the mines were called upon for light production. Even in the case of steel, there was, as a matter of fact, a good supply, and at the end of the war neither the railways nor the mines had to rush into the market for large quantities. It seems that those in charge of the shipbuilding program and of the ordering of steel for the Navy and for France, constantly insisted on steel shipments much in excess of current needs, which resulted in an accumulation of that product.

It cannot be denied that it was well to play safe and to allow for a possible continuation of the war. Also, by economical methods, considerable savings in consumption were effected. Nevertheless, it is our conclusion that the prices of several important regulated commodities were probably somewhat too high at the time the armistice was signed. It may be that the *Engineering and Mining Journal* put the matter too strongly when it said, "Junior officials, without any thoughtful estimates of military consumption, bought recklessly of goods produced by labor at a fantastic wage scale" (Feb. 1, 1919) and that the armistice found the United States overbought in nearly every commodity. While there was probably something of this sort, we would emphasize, as the seat of the trouble, the fact that in fixing prices inefficient producers were kept alive by accepting an unduly high marginal cost.

3. *Criticism of the Chief Price-Fixing Agencies*

The work of the Price-Fixing Committee of the War Industries Board was in the main a "trading proposition". While considerable pressure could be, and in some cases was, brought to bear upon an industry, there was generally an effort to reach an agreement, in which considerable bargaining was used. The Price-Fixing Committee knew that the government must depend upon the cooperation of the industry in order to prevent evasion and to secure the service which was so important. The industry knew that the Price-Fixing Committee had great power through control of priorities and of public opinion. Various factors

affected the situation as the different bargains were driven. Sometimes a particular government department, such as the Navy, was immediately interested in securing a lower price, and then the tendency was for the Price-Fixing Committee to drive a sharper bargain. If there was considerable public interest in the price, the article concerned being of wide, general use, the same tendency existed. If the quantity involved was small, no great part of the total output being concerned, it was easy to reach an agreement, and in such cases concessions were sometimes made to the government, while in others, possibly the government did not make so careful an investigation or attempt to ascertain accurately the lowest possible price. One of the most important factors in the bargaining was the degree of organization of the producers. Those industries which presented their cases before the Price-Fixing Committee through a well organized committee, or even a single individual, were apt to secure better results from their point of view. This is well illustrated by the fact that the Southern Pine Association secured prices which were not so close to cost as were those secured by the relatively unorganized representatives of the western logging and lumber companies. Finally, the practicability of commandeering the plants of the producers played an important part. When the Price-Fixing Committee knew that there were thousands of small plants, it felt that its dependence upon the good will and cooperation of the industry was greater than in other cases where government operation was more practicable. An extreme illustration of this occurred in the reluctance of the Price-Fixing Committee to take up the matter of wholesale and retail prices on such commodities as lumber.

A large part of the work of the Price-Fixing Committee of the War Industries Board was in effect equivalent to giving representatives of the industry concerned considerable authority to get together and agree upon a price which would insure profit to most of the producers. A maximum price was named, and those engaged in the industry then lined up and charged the maximum price. Witness the situation in copper, cement and steel.

Naturally enough, with this condition of bargaining and "agreed" maximum prices, the prices of certain things were fixed too high. This sometimes occurred for the reason that the price was named as a mere maximum, while in reality it was also a minimum. But the chief trouble was that the marginal cost was too liberally construed. Generally it included large salaries for officers and directors (containing an element of profit), as well as liberal allowances for the replacement of raw materials owned on the basis of market value. Generally, too, the risk of loss was largely removed by the price-fixing operation,—aside from an uncertain future element owing to doubt as to the duration of the war. Above all, a profit was allowed to the marginal company, for there was added to the marginal cost an allowance of 10 per cent. on investment, considerably more than interest. A marginal company, under competition, gets no differential profit; the efficiency differential is secured by low-cost companies only. To add to all this, the 10 per cent. allowance was generally figured on a capital investment which was in excess of the true net investment. Indeed, the investment was not determined at all in some cases. It is no wonder, therefore, that prices were fixed at too high a level. This found expression in the utilization of inferior natural resources by many companies.

Surely there is some limit to the justification of profits on the ground of marginal cost. Take any case in which there is known to be profiteering. If no limit is to be placed upon marginal cost, it would only be necessary to start up some extremely inefficient plant in order to obscure the whole situation. Good work was done by the Price-Fixing Committee in eliminating from consideration abnormal plants or companies, but in our judgment not enough of this was done. In determining the margin, the proportion of the total product produced at a cost above the marginal cost should be considered, together with the history and efficiency of such submarginal operations and also the possibility of securing the total necessary supply from supramarginal companies. In a word, the agencies acting for the government should have exhausted every effort to secure as much as possible of the necessary supply from low-cost companies and to that end should have brought more pressure

to bear by refusing to consider small high-cost companies and by *demanding the maximum output from low-cost companies.*

The policy of "stabilizing", which is closely related to the vicious idea of "keeping business as usual", tended to keep the inefficient alive, thus guaranteeing higher and higher differentials in industries which required no stimulation, (*e.g.* lumber and cement). This made the consumer carry the burden of the overhead expenses of unnecessary plants and prevented the concentration of the factors of production at points where they would be most effective.

The failure of regulation to hold prices to a closer relation to cost, enabled the accumulation of enormous surpluses or reserves in the hands of powerful low-cost companies. These they can use to tide over lean years during which weaker companies will fail. It would possibly have been a kinder and more wholesome policy to have used the knife more freely.

A large part of the activity of the business men who represented the War Industries Board in its price control, was unconsciously directed toward protecting the industry against what they believed to be drastic regulation and demoralization. Immediately upon the signing of the armistice, these men felt greatly relieved and proceeded to various points on the coast of Florida. This helps to explain why the Industries Board disbanded so promptly without taking steps to regulate prices during the transition period. One cannot but wonder why, if price regulation was regarded as a good thing and had been well done, it should have been dropped so incontinently. The period of transition to peace was a delicate one in which the stabilization of prices was desirable. The conditions existing in October, November and December, 1918, were as much war conditions as those which had existed in July, August and September. Why, then, did the War Industries Board practically cease to function?

We shall not undertake to criticise the work of the Fuel Administration on coal prices further than to say that in our judgment, the chief error lay in the precipitous attempt to fix prices at the beginning without sufficiently detailed information as to

cost. This resulted in fixing uniform prices for large areas within which conditions differed widely. As time went on the work was more and more carefully done. A few words should be said, however, concerning the work of the Oil Division of the Fuel Administration. This furnished an illustration of unusually close cooperation between the industry and the government, and its operations were controlled by men who were personally interested in the industry. Certainly, its work was effective in securing the needed supply of products, which was the chief end to be accomplished. It is a fair question, however, whether the same quantity of oil could not have been secured at less cost to the government and the people. The last advance in crude oil prices was, in our opinion, entirely uncalled for, and this opinion is shared by many oil producers. Indeed, the advance was not made as large as that which the Oil Division had originally intended. The principal factor in oil scarcity was not the price but a shortage in equipment and transportation. It is our opinion also that the figures given out by the Oil Division did not always convey a correct impression. For example, the same argument for "gasless Sundays" that was made in 1918 could have been made in any year from 1914 to date, as it is always the case that surplus stocks of gasoline are accumulated from December to April, and that such stocks thereafter decline until the fall months, when the refineries run practically from hand to mouth. Moreover, it is doubtful if the figures showing a great decrease in crude oil storage after June, 1918, can be justified, a sudden decrease of approximately three million barrels being indicated which cannot be explained by the export figures. Finally, the public was led to believe that the stationary price of gasoline was an achievement, while as a matter of fact, to hold gasoline prices up at the same time that the prices of fuel oil and lubricating oil were greatly increased, was virtually equivalent to advancing the price of gasoline. The oil industry, with the exception of cotton, was the one great basic industry of the country for which there was virtually no price regulation. This was the achievement!

With regard to the Food Administration, it must be said in advance that the problem was peculiarly difficult, as it involved

prices to the consumer, and almost every case was one in which there were substitutes. Nevertheless, as long as the attempt was made, it must be judged, and it is a fact that the Food Administration's price regulation illustrates too many of the evils of the so-called "cost-plus basis". The attempt was made to regulate margins, and, especially as fixed margins were named, much manipulation of accounts was invited. Little was done, however, to determine costs. The object was, largely, to impress the public and to allay social unrest. Prices were agreed upon at conferences between groups of interrelated industries and were fixed on a rough and ready basis, dependence being placed upon what had been the usual return in the past. Any one who will look into the results of price regulation in the case of flour and canned goods (vegetables, fruits and milk) will find how unsatisfactory the results were. In the case of canned milk, for example, the price of raw milk was not fixed. Manufacturing costs were not checked. At one time, as high as 50 cents per case of "talls" was allowed. The price of interrelated products was not controlled, as a result of which cheese makers could not afford to pay the price for milk that the condensers could pay.

On the whole, it may be said that price fixing in the United States suffered from the lack of a program. No adequate study was made of interrelations between commodities or of the various complicated factors affecting demand and supply. No general principles were formulated. Too frequently, each step was taken up as a separate proposition. Much trouble would have been saved by a better understanding among the different price-fixing agencies and by the adoption of certain broad fundamental principles, such as the basis for determining marginal cost ("the bulk line figure") and the basis for determining investment.

There should have been a general board of strategy to supervise the entire price-fixing program and to coördinate it with the government's fiscal arrangements and with the various steps taken to control production and consumption through priorities and rationing. Some progress was made in this direction, as has been pointed out in a preceding installment of this article.[1]

[1] See above, pp. 14–17.

But it remains true that the price-fixing operations were not sufficiently correlated with taxation and borrowing (inflation) on the one hand, and with rationing and priorities on the other. The price of eggs *e. g.* was regulated without regard to the price of hen feed, with the result that hens were slaughtered. The price of wheat was fixed without fixing the price of other grain substitutes therefor. The price of coal was fixed, but not of fuel oil; of cottonseed, but not of cotton,—while a different body, actuated by different motives, fixed the price of cotton linters. After all, price fixing, control of production and consumption, taxation, and government borrowing, all are concerned with price, and all affect the adjustment of labor and capital, saving and the distribution of wealth. The lower the price and profits, for example, the less the inflation required, while not only is the source of income taxes reduced, but also the need for such taxes.

As a result of not coördinating price regulation with taxation policy, conflicting purposes were allowed to function, loose methods were encouraged, and prices were not so carefully fixed, nor taxes so carefully applied, as would have been the case had the two matters been considered together. This fact is concretely illustrated by the virtual clash between the "cost-finding" principles of the Federal Trade Commission and the rulings of the Internal Revenue Department with regard to the determination of investment. The lack of coördination between price regulation and the control of demand and supply is illustrated by the fact that prices were sometimes raised unnecessarily when the real need was for priority (*e. g*, oil); and, in the case of cement, prices were actually raised to keep plants alive, while at the same time the output of the industry was curtailed by a reduction in the coal allowance. When the whole price-fixing and industrial-control "program" is regarded as it should be, that is as a national policy, it becomes apparent that it was highly opportunistic. While intimidating some to observe retail grocery prices and to buy liberty bonds, while compelling some to live up to the rationing regulations concerning sugar and flour or to sell at prices carefully fixed on the basis of cost, the government was appealing to others on the score of patriot-

ism and was virtually bribing still others through high profits and was facilitating the whole scheme by the dangerous expedient of continual inflation.

4. *Conclusion*

It is our conclusion that price fixing is, in war time, a necessary evil.

In the first place it is necessary. The chief grounds of necessity, some of which did not have much influence if any, were as follows: (1) To replace competition where this force disappears or becomes abnormal. Unified government buying increases the field of monopoly, and conditions of ignorance and panic make a reliance upon the forces of demand and supply in many cases impracticable; (2) To serve as part of a system of control of demand and supply. The use of priorities, rationing *etc.*, causes changes in demand and supply forces which require an appropriate adjustment in prices; (3) Price fixing in the shape of a guaranteed price is necessary in some cases to insure the adequate production of needed commodities; (4) Price fixing may be used to advantage for the purpose of stabilizing markets when such markets would otherwise take on a "run-away" condition.

Nevertheless, price fixing, even when necessary in time of war, is an evil or at least has its evil side. Any price fixing is bad in the sense that some of the advantages of free competition are abandoned, the most notable loss being that of the "weeding out" process which attends competition. As a result, there is no guarantee that the margin of production will be economically determined. The adjustments required among different industries are also sure to involve some which are discriminatory in character.

The evils of price fixing may, in our opinion, be reduced to such a minimum that *in war time* the advantages gained thereby outweigh the disadvantages. On the whole, it is our opinion that such was the case in the United States, but that the balance in favor of the price fixing was, on account of the way in which it was done, much slighter than it should have been.

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